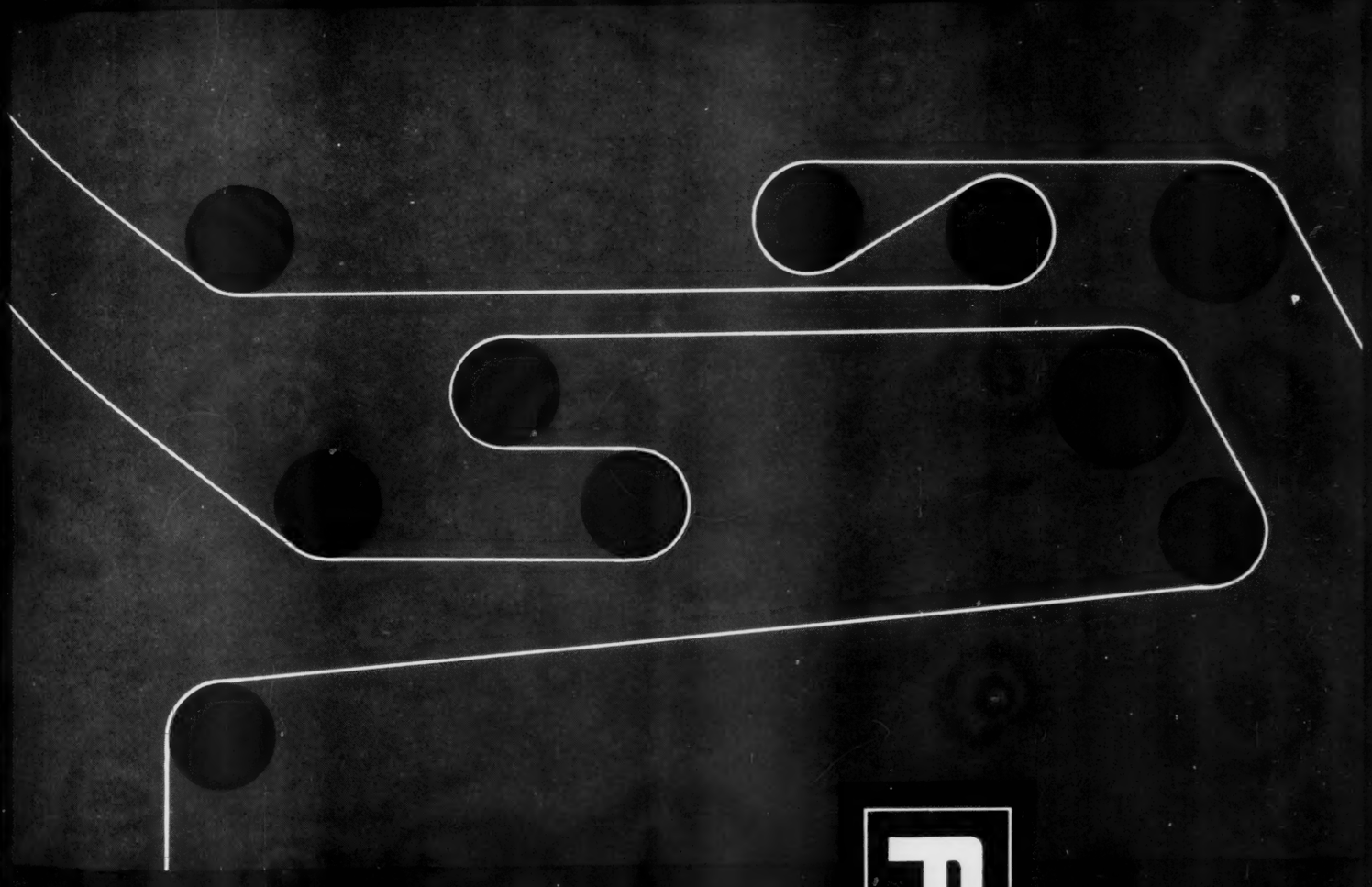
# PRINTING EQUIPMENT



# ..Here's a 17x22 press that *Means Business!*

HARRIS 17 x 22" OFFSET PRESSES are sturdy, fast, accurate. They are built to make printing profitable.

They mean business—more profitable business—because they roll faster with finer register and smoother inking . . . because they give more impressions, better impressions, and *a better run for your money* than any other small offset press built.

Stream feed, more rollers, single-point press control, larger feeder capacity, larger delivery capacity, positive controls are A FEW of the features that have made Harris offset presses the recognized leaders in the industry.

So whether you plan a combination shop or a straight offset shop, get set for more profitable business. WHEN YOU GO OFFSET . . . GO HARRIS.

## HARRIS-SEYBOLD

General Offices—Cleveland 5, Ohio

HARRIS PRESSES • SEYBOLD CUTTERS • OTHER GRAPHIC ARTS EQUIPMENT

# NOW . . . PRE-DRY WITH STA-HI!

Sta-Hi's new Even-Temp Mat Dryer enables you to properly pre-dry your mats where maximum shrinkage must be obtained.

The machine employs the principle of circulating hot air to shrink each and every mat uniformly over the entire surface. It may also be used as a flat scorcher.

Heat is provided by electric strip heaters of the same type and high quality used in the Sta-Hi Master Former. Temperature is regulated by a fine-range thermostat.

An electronic timer controls the length of time the mat is left in the machine. This timer is automatically engaged when a mat is placed in the machine and the lid is closed. It is disengaged when the cover is opened.

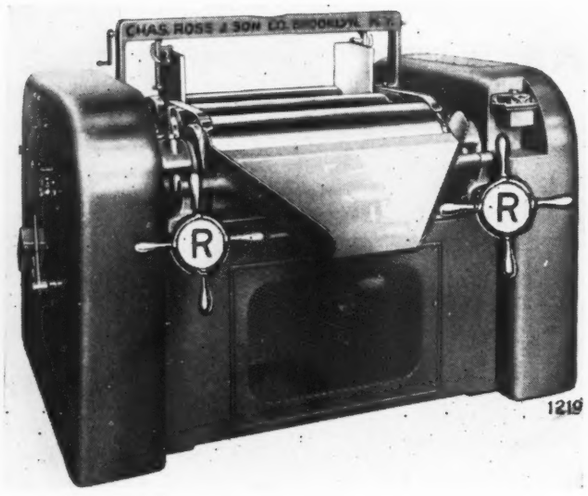
If you're having any "headaches" with high shrinkage, you owe it to yourself to investigate the Sta-Hi Even-Temp Mat Dryer!

STA-HI

*STA-HI* EVEN-TEMP MAT DRYER

***STA-HI CORPORATION • 1020 CROCKER ST. • LOS ANGELES 21***

# DEPENDABILITY *in a bearing is the only thing that* COUNTS




● *The roll-necks of this Ink Grinding Machine, built by Charles Ross & Son Co., are equipped with SKF Spherical Roller Bearings.*

Name any modern machine used in the printing industry, and you'll name a machine that depends upon anti-friction bearings—and SKF Bearings in particular. On this Ink Grinding Machine—as on huge, high-speed presses, conveyors, shavers, matrix rollers, etc. —SKF Spherical Roller Bearings prove that dependability in a bearing is the one thing that counts. They assure maintained accuracy, carry heavy loads, and keep down maintenance costs. Their rolling alignment accommodates shaft deflection, and their high capacity is always available. For bearing dependability, insist on the bearings marked "SKF." 6557

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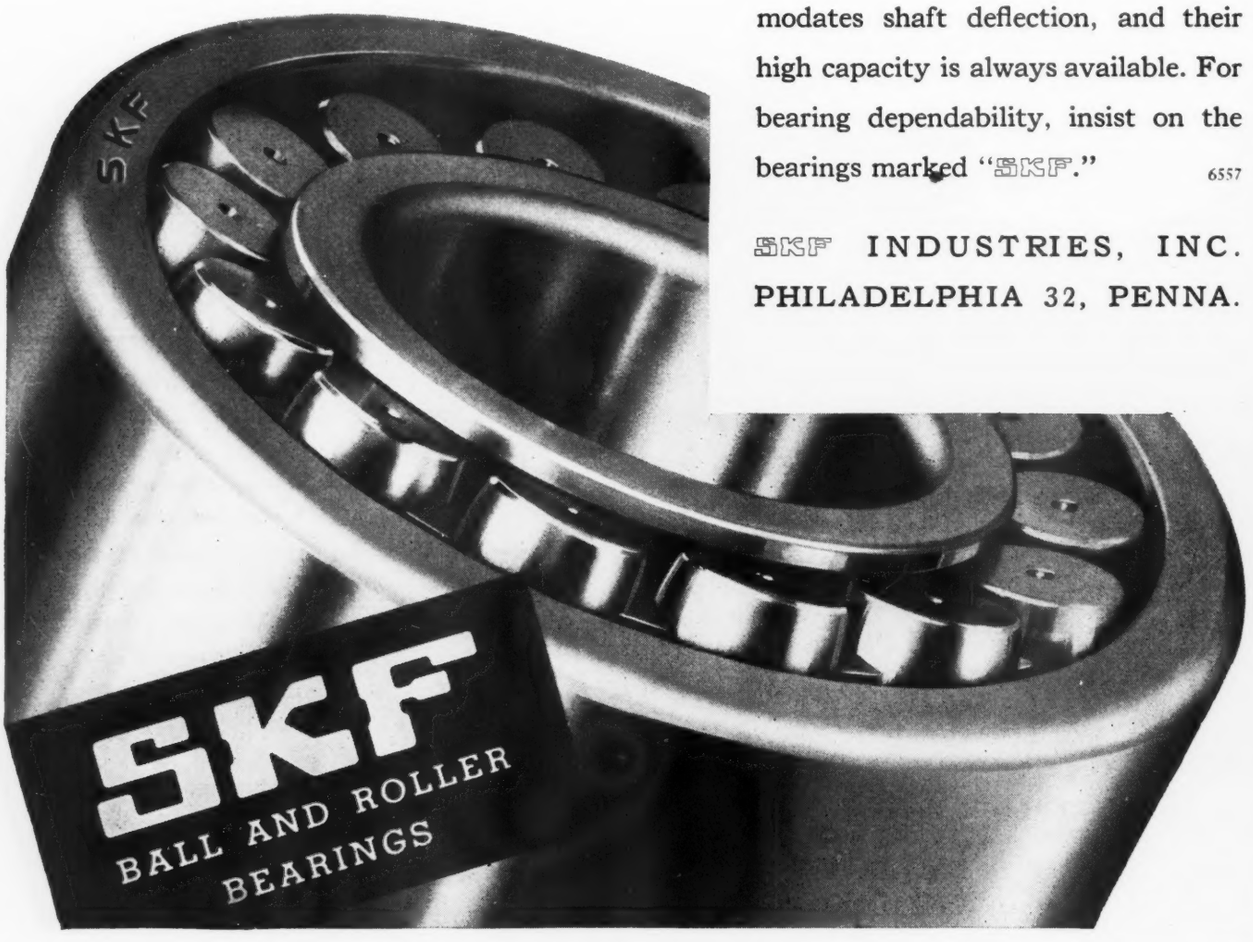
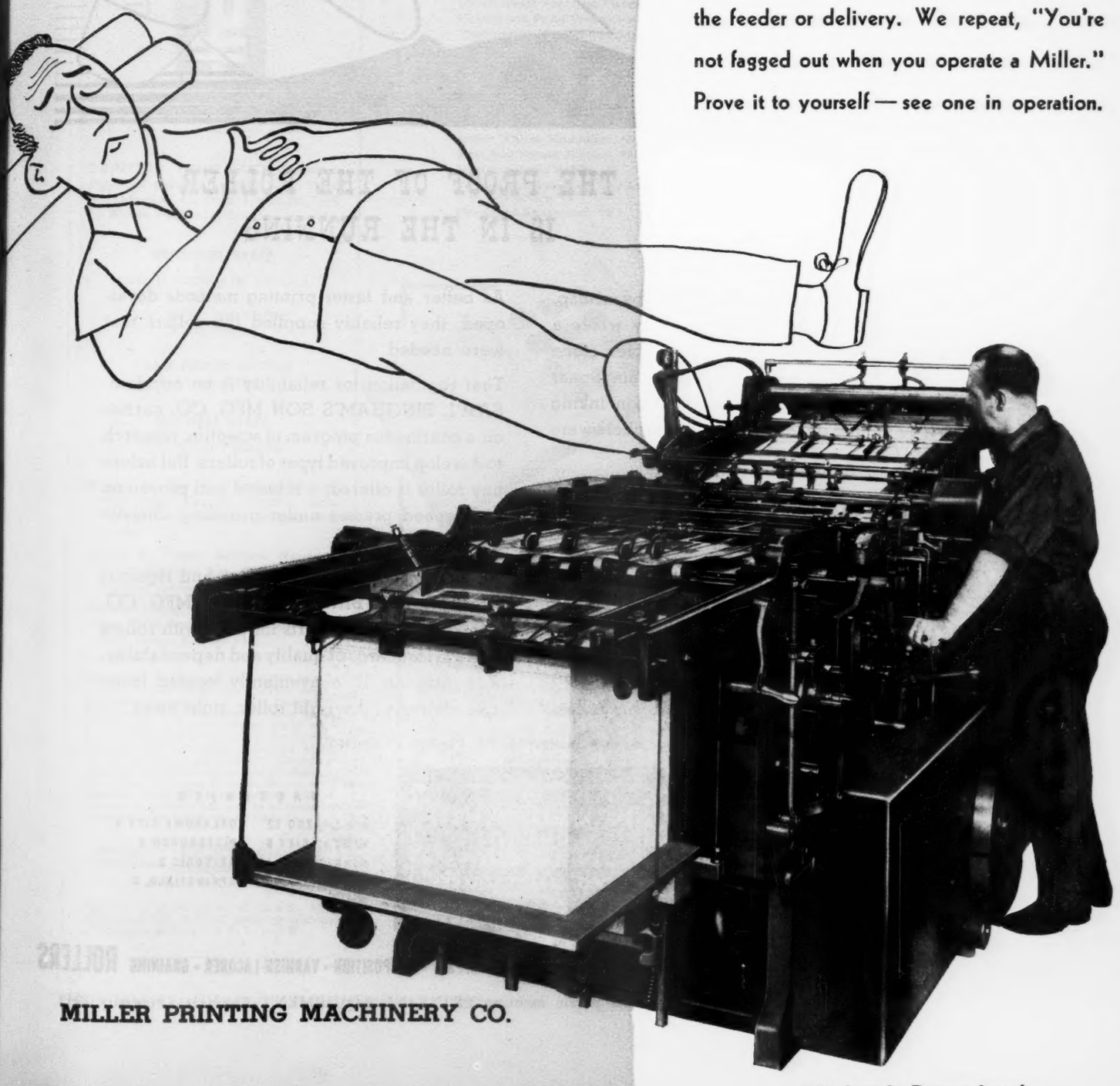


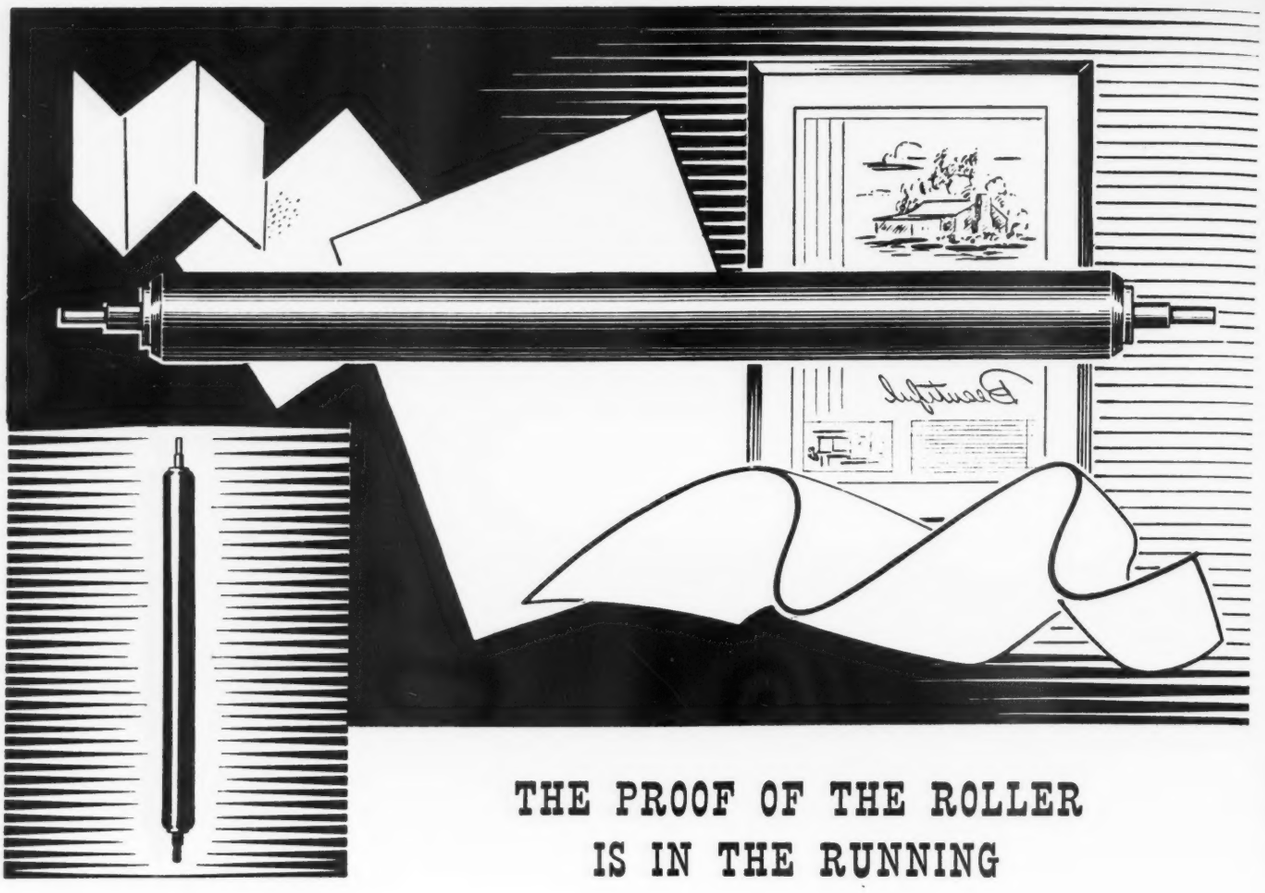
# You're not fagged out when you operate a Miller

On any Miller Cylinder Press, the low solid frame plus easy access to cylinder and bed allows the pressman to makeready accurately and effectively. The few adjustments necessary on the feeder and delivery give him extra time for matching inks and checking printing specifications. Due to compactness, just a few steps are necessary to reach either the feeder or delivery. We repeat, "You're not fagged out when you operate a Miller." Prove it to yourself — see one in operation.



**MILLER PRINTING MACHINERY CO.**

Pittsburgh, Pennsylvania



# THE PROOF OF THE ROLLER IS IN THE RUNNING

Progress in printing is often made by mishap. Alois Senefelder accidentally wrote a laundry list on a piece of Solenhofen stone and lithography was invented; Adam Spear allegedly spilled treacle on buckskin inking balls by accident, and composition rollers were invented.

But printers nowadays can't wait for accidents . . . there's no time to try out innovations on a maybe-yes-maybe-no basis. Their presses and rollers must do what they're supposed to do . . . or costly delay results.

For over a hundred years printers have relied on Samuel Bingham, America's first roller specialist, and his successor, SAM'L BINGHAM'S SON MFG. CO., for the best possible rollers.

As better and faster printing methods developed, they reliably supplied the rollers that were needed.

That reputation for reliability is no accident. SAM'L BINGHAM'S SON MFG. CO. carries on a continuous program of scientific research to develop improved types of rollers. But before any roller is offered, it is tested and proven on high speed presses under gruelling climatic conditions.

So, by constant experimentation and rigorous testing, SAM'L BINGHAM'S SON MFG. CO. supplies the graphic arts industry with rollers that are standards of quality and dependability, and, through 16 conveniently located factories, delivers "the right roller, right away."

OVER ONE HUNDRED YEARS OF ROLLER MAKING

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# PRINTING EQUIPMENT *Engineer*

Volume 77 Number 5

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

PRINTING EQUIPMENT Engineer, Published monthly at 1276 West Third St., Cleveland 13, Ohio. Copyright 1949 by Willsea Publishing Co.

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Subscription price per year, $3.50 in advance in U.S.A. Single copy current issues, 35c; feature issues $1 per copy; December Equipment and Supplies Catalog Issue $2 per copy in United States, $2.50 outside of United States. (U. S. currency). Subscriptions in foreign countries $4.50 (U. S. currency) in advance. Canadian printing plant mechanical and production executives receiving Printing Equipment Engineer under CCA regulations will be charged $1 postage per year in advance to cover additional postage to Canada.

Member Circulation CCA Controlled Audit

Printed in U. S. A.

Acceptance under the act of June 5, 1934, authorized Feb. 5, 1948, under provisions of amended section 573 P. L. and R.


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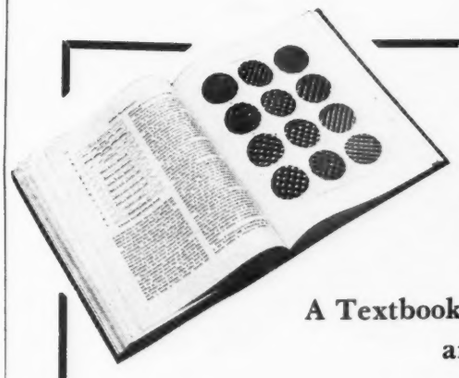

**MODERN Photoengraving**

A Textbook for Printing's Production and Mechanical Executives

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Many executives know little about photoengravings or how they are made. Many look upon photoengraving as a secret process. Many would like to comprehend the process fully. Every operation fully explained.

MODERN PHOTOENGRAVING is an up-to-the-minute textbook on photoengraving covering every practice of this important process.

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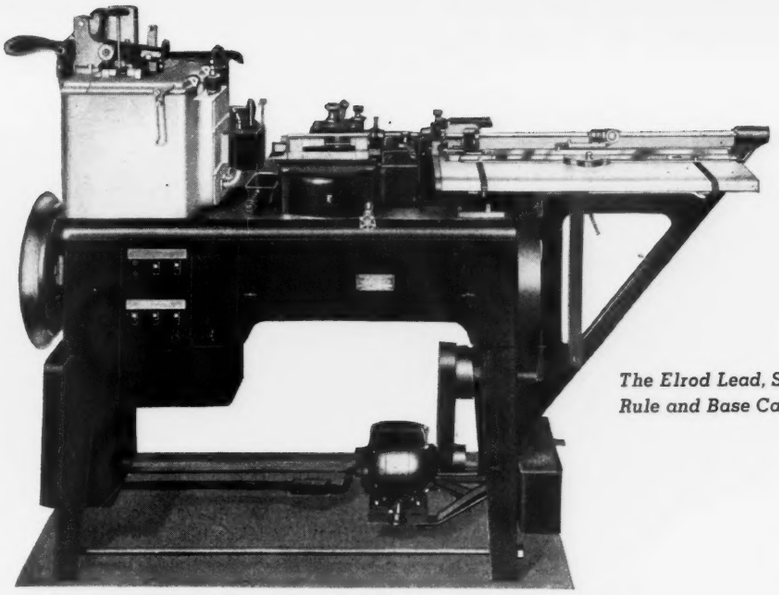


*The Elrod Lead, Slug, Rule and Base Caster*

# The Elrod

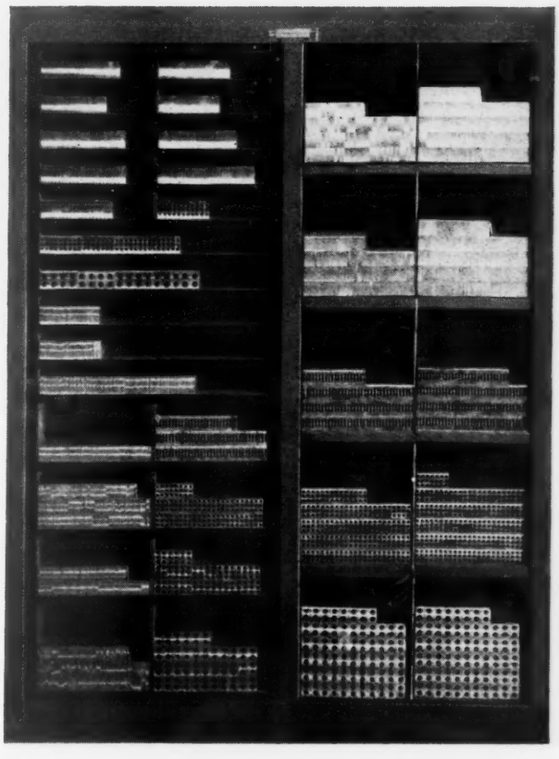
## *helps to keep the material bin full*

No compositor rightly can be expected to produce efficiently if he is constantly handicapped by a shortage of strip material, thereby compelling him to "piece" leads, slugs and rule borders, and to use makeshifts for base, or for blocking out forms. This condition is chronic in many plants, and is reflected in a "what's-the-use" attitude on the part of the conscientious workman.

With an Elrod on the floor, however, the picture quickly changes, and the compositor can proceed with confidence and peace of mind, knowing that with material racks full there will be abundance for every need.

The Elrod is a single-purpose machine producing uniformly high-quality strip material ranging from 1-point to 36-points in thickness, which in every way meets today's exacting printing and stereotyping requirements.

Many hundreds of satisfied users have found the Elrod to be the answer to their strip material problem, and that its operating cost and upkeep are most moderate.



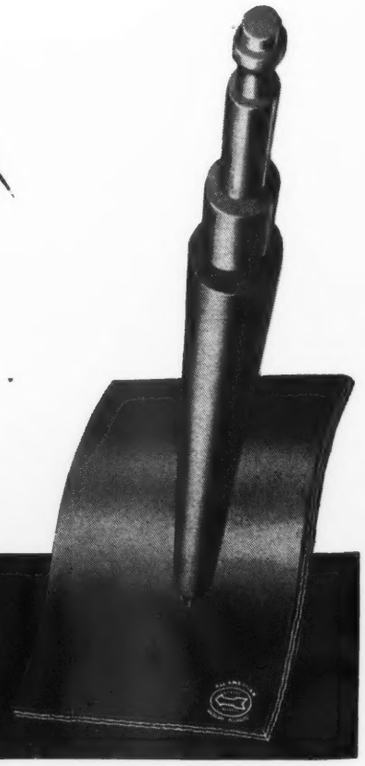
**Ludlow Typograph Company** • **2032 Clybourn Avenue, Chicago 14, Illinois**

# USE MERCURY PRODUCTS

Like the chords that roll from a concert piano, the depth and quality of fine printing is a blend of subtle tones. You get this subtle quality when you use Mercury rollers and blankets.

Every variation in shading is brought out. Heavy solids and delicate tints are reproduced with every value accurately preserved.

That's why Mercury rollers and blankets are the favorites of the nation's foremost lithographers and printers.



**RAPID ROLLER COMPANY**

D. M. RAPPORT, Pres. Federal at 26th St. CHICAGO 16

# Keeping in Touch

IPI, Holdfast, and Gemtone are trade-marks of Interchemical Corporation

IPI • DIVISION OF INTERCHEMICAL CORPORATION • 350 FIFTH AVE., N. Y. 1. • ADDRESS INQUIRIES DEPT. A

# NOW YOU CAN BUY NON-SCRATCH HALFTONE BLACKS WHICH PRINT AS WELL UNDER MODERN CONDITIONS AS THE BETTER CONVENTIONAL LINSEED OIL INKS

One problem which printers face today is that of finding a non-scratch halftone black that will print as well under modern speed conditions as conventional linseed oil inks.

Now there is available a *series* of non-scratch halftone blacks to meet all commercial printing conditions.

These inks are our really *new* Holdfast halftone blacks . . . made with new materials and by new methods . . . as a result of which they print beautifully clean and sharp, are highly scratch-resistant and smudge-resistant, dry more positively in the pile, have excellent fountain flow and mobility, and work extremely well on the press.

Place a trial order with your IPI Service Station, or write us at 350 Fifth Avenue, N.Y.1. We'll route your order to the Service Station nearest you for prompt shipment. Compare these blacks with the *best* you are now using.

***It delivered the second shot*** **. . . in the National Association of Printing Ink Makers' campaign, in advertising publications, to promote printing ink's effectiveness as a salesman. Copy stressed advantages of *color* printing.**

***See how they print:*** **This new folder of halftone black specimens shows how six new halftone blacks in the famous IPI Holdfast Series print. These new Holdfast halftone blacks combine clean, sharp printing with high scratch-resistance, smudge-resistance, and more positive drying in the pile. They also work very well on the press. Send for a copy.**

## *NEW LETTERPRESS COLOR GUIDE OFF PRESS; PRINTED IN FILE SIZE AND POCKET SIZE*

Our new Letterpress Color Guides, in file size and pocket size, are now off the press.

The Guides, in both sizes, contain prints of 108 colors, each marked with its A.S.A. Specification and Color Description, as well as with our formula number.

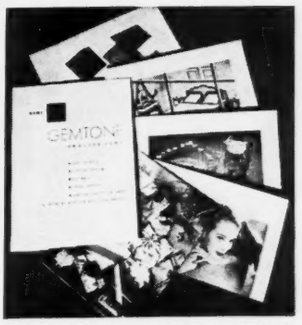
The large, file size Guide also contains sections on process colors, halftone blacks, and reproductions showing a comparison of conventional process inks with our new Gemtone process inks. Pages are indexed for quick reference. The large Guide measures approximately 10 inches by 12 inches; the pocket-size Guide 2¾ inches by 4 inches.

Cover design on both Guides is a "County Fair" scene done by Alice and Martin Provensen, well known for their illustrations in the "Fireside Book of Folk Songs."

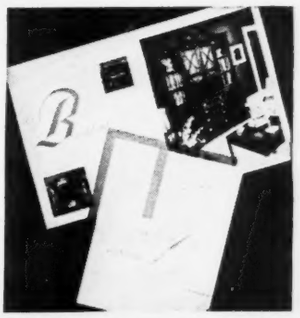
The new Color Guides are free to printers and other ink users. Write on your letterhead for a copy.

**Twenty indexed pages of colors, halftone blacks, and process inks comprise the new IPI file size Color Guide. Colors are also shown in a pocket-size Guide. Write for a Guide on your letterhead.**

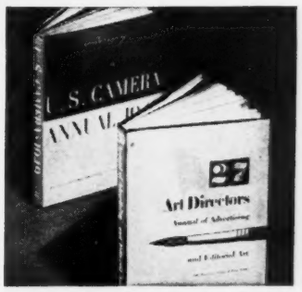
***THESE PICTURES HIGHLIGHT IPI INKS IN THE NEWS***




***We used Kromekote*** **for our third Gemtone process color folder. Send for it. It contains some fine examples of Gemtone printing.**



***A "knockout" example of process printing on Kromekote*** **is this RCA-Victor folder. It is one of a series of three such folders. Write for one.**




***Once again they're printed with IPI inks.*** **. . . these two fine Annuals. Also printed with our inks are "Treasury of Art Masterpieces," and "Flower Prints in Color."**

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# SPEED.....
# DIMENSIONAL STABILITY.....

# with Chemco Roll Strip Film

## Three characteristics distinguish Chemco Strip Film

**TONE SEPARATION** is unequalled. Chemco Strip Film delivers a negative with open shadows and unblocked highlights. No "screeny" effects; reproductions have a smooth transition of tone that is "photographic."

**SPEED** of exposure steps up the production rate . . . Ten-second line exposures at F 32 are routine with Chemco Strip Film. Faster exposures mean more halftones in less time, with an economical light source of lower intensity.

**DIMENSIONAL STABILITY** holds register and duplicates scale settings on stripped negatives. A minimum of shrink or stretch is inherent in Chemco's tough, thin stripped film . . . Color or black and white negatives really hold size.

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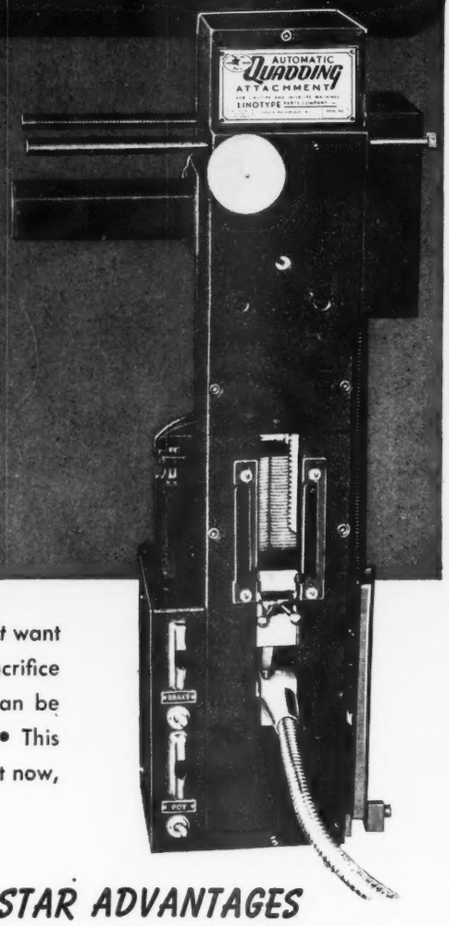


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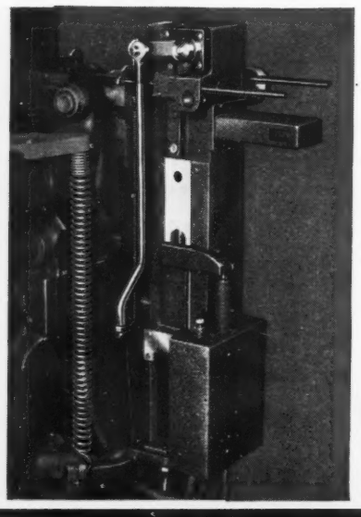

*Rear view . . . Attached without drilling or tapping.*

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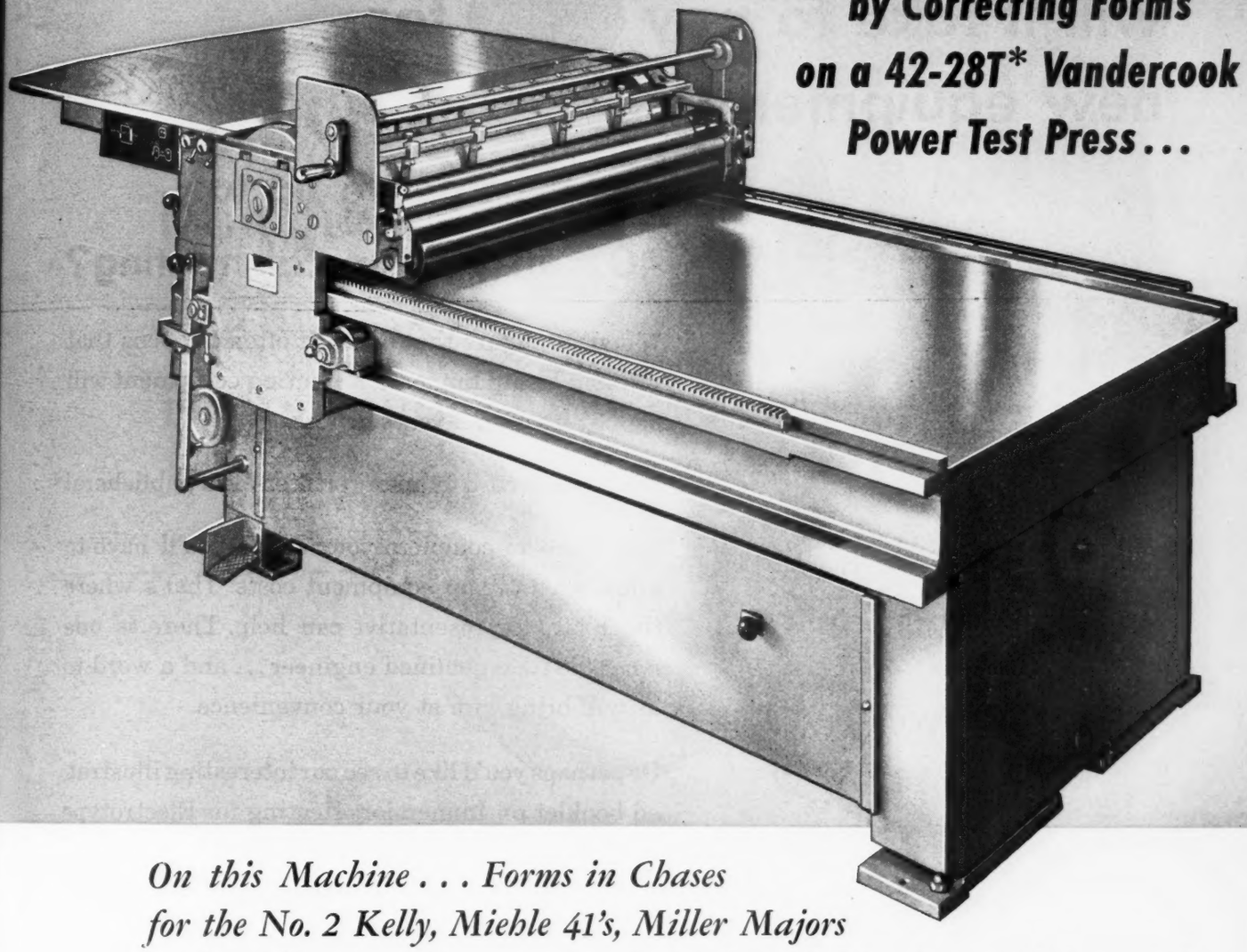
# GET MORE VOLUME... REDUCE MAKEREADY TIME

## by Correcting Forms on a 42-28T* Vandercook Power Test Press...



*On this Machine . . . Forms in Chases for the No. 2 Kelly, Miehle 41's, Miller Majors and smaller flat bed presses can be Registered, Lined-up and Corrected*

In almost every plant of medium size and larger, many valuable hours of makeready time can be saved by the proper preparation of all forms locked in chases on this power operated, precision machine—*before* placing them on production presses. The time consumed on "pre-press" functions represents many costly man-hours and machine-hours—and most of the operations could be done more efficiently and economically on a Test Press. In addition, the 42-28T will also provide a means for supplying customers with advance color proofs—using the same ink and same stock as on the finished job. Write for further information regarding the Vandercook Pre-Press System... addressing your letter to our general offices.

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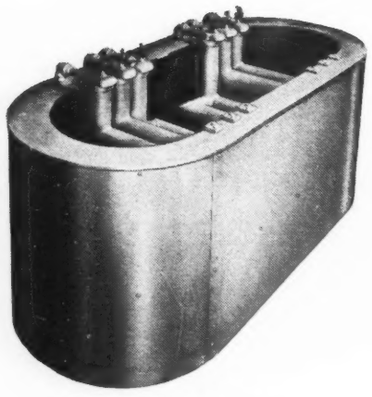
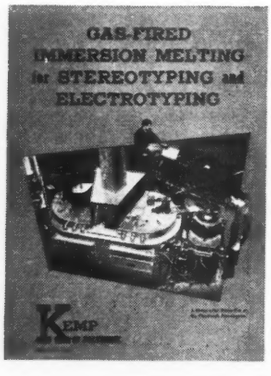


*10-Ton Obround Stereo Pot*

But first—to complete your data—you'll have to know what Kemp equipment costs. That's where the Kemp representative can help. There is one near you... a qualified engineer... and a word to us will bring him at your convenience.

Or perhaps you'd like to see our interesting illustrated booklet on Immersion Heating for Electrotype and Stereotype plants. Yours, too, for the asking.




The C. M. Kemp Manufacturing Co.
405 East Oliver Street
Baltimore 2, Maryland

☐ Please send me your NEW Bulletin No. IE-10 on Immersion Heating.

☐ Please send a Kemp representative in to see me.

Name.....

Company.....

Street.....

City..... Zone.....

State.....

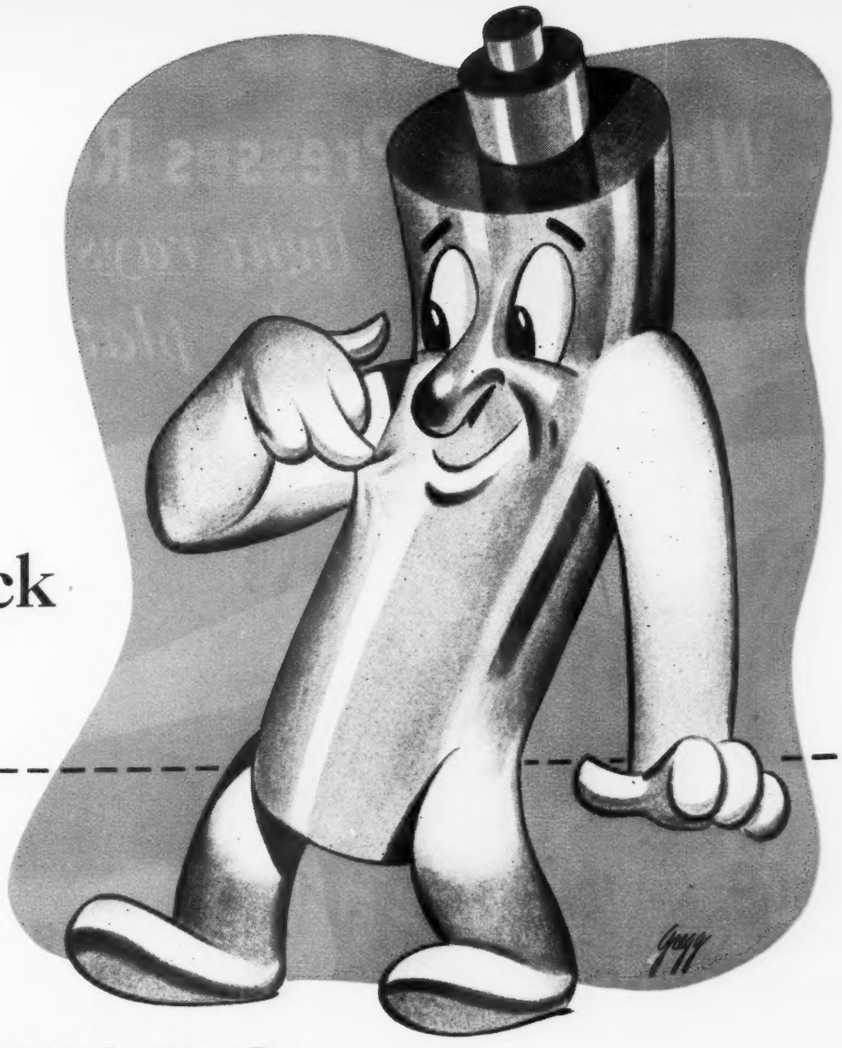
HPEE-2

# KEMP of BALTIMORE

**The C. M. KEMP Manufacturing Co.**
**405 East Oliver St., Baltimore 2, Md.**

**PRECISION CARBURETORS • BURNERS FOR INDUSTRIAL HEAT CONTROL • FIRE-CHECKS AND OTHER SAFETY DEVICES**
**ATMOSPHERE GENERATORS • INERT GAS PRODUCERS • ADSORPTIVE DRYER SYSTEMS FOR PROCESS CONTROL**

# For Just the Right Tack



## use dayco ROLLERS

Never too sticky—never too firm—Dayco Rollers have a tack that's just right. Their velvety surface picks up just the right amount of ink, distributes it smoothly and evenly. You get perfect reproduction from fine halftones, lines and solids.

And Daycos hold their tack year-round . . . in all weather—through wash-up after wash-up. They are not affected by most types of ink. They resist moisture, oils and acids. With proper care, they do not glaze. Built for long life, Dayco Rollers last as much as four times as long as ordinary rollers.

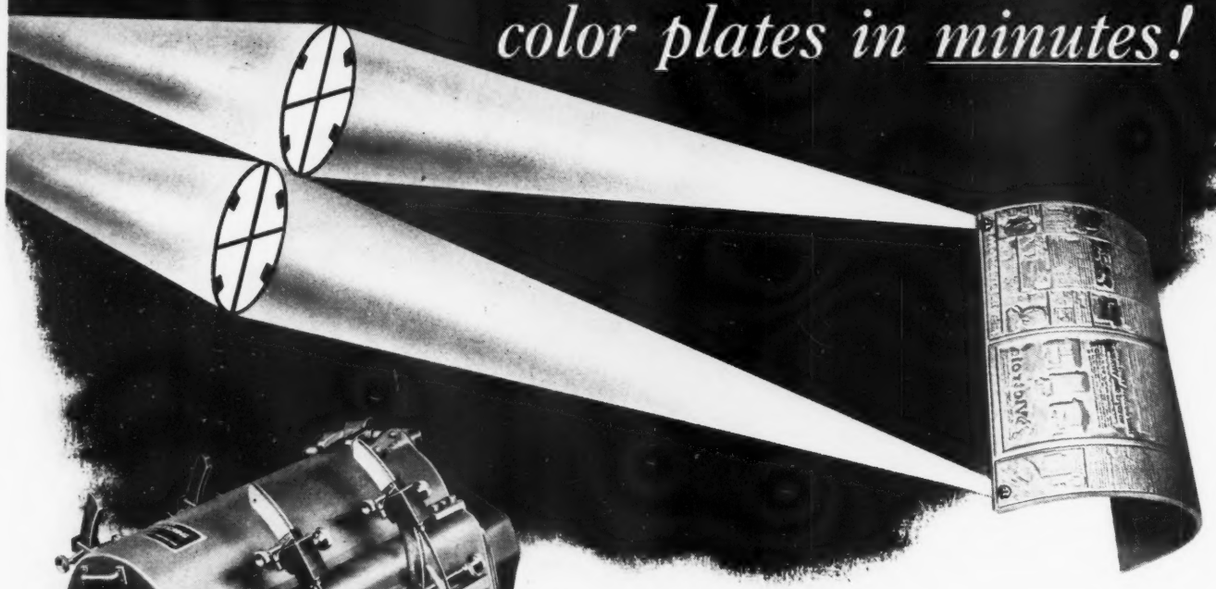
Use them on form, distributor and ductor positions . . . for letterpress and offset, Dayco Rollers give you that "just right—not too soft, not too hard" effect you need for perfect printing. And they do it for millions of impressions. Next time you change rollers, use Daycos. For full information, write or call *The Dayton Rubber Co., Dayton 1, Ohio.*

by **Dayton Rubber**

Pioneers of Improvements for Better Printing with lithographic, letterpress & newspaper Rollers; Color Separators and Fountain Dividers.

# While Your Presses Roll...

## *light rays Pre-Register color plates in minutes!*



*Operator adjusts indicators for only the first plate in a series. Following plates are merely positioned so that register marks coincide with the light-rays. Color plates are trimmed so that they reach the pressroom ready to lock-up and run with a minimum of adjustment.*

**Speed your newspaper printing production with the WOOD Color Plate PRE-REGISTERING Machine . . . featuring "LIGHT-RAY" Control! It brings to your daily, a practically automatic, high-speed method for registering colors . . . *without sacrificing a moment of profitable press time.***

**With the new, exclusive "LIGHT-RAY" Control, the WOOD PRE-REGISTERING Machine is easy to use . . . fast and economical.**

**Yes, the day this remarkable time and cost-saving machine is installed in your plant, that's the day you begin to enjoy *all* the advantages of multi-color printing. Write for further information.**

IF IT'S Wood IT'S GOOD

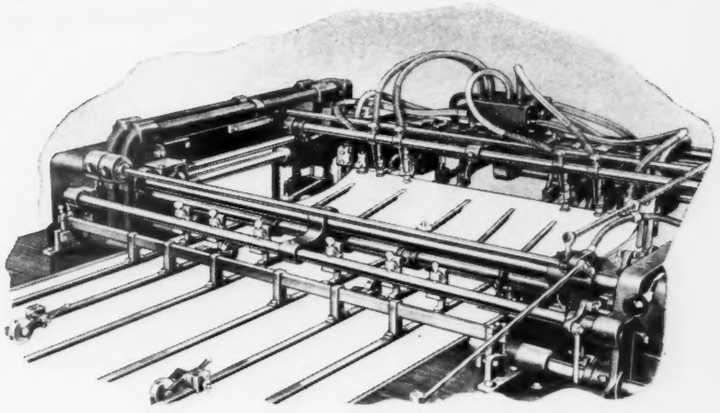
**WOOD NEWSPAPER MACHINERY CORPORATION**
**PLAINFIELD, NEW JERSEY**
EXECUTIVE OFFICES: 501 Fifth Avenue, New York 17, N. Y.

# MIEHLE } *Best for* PRODUCTION

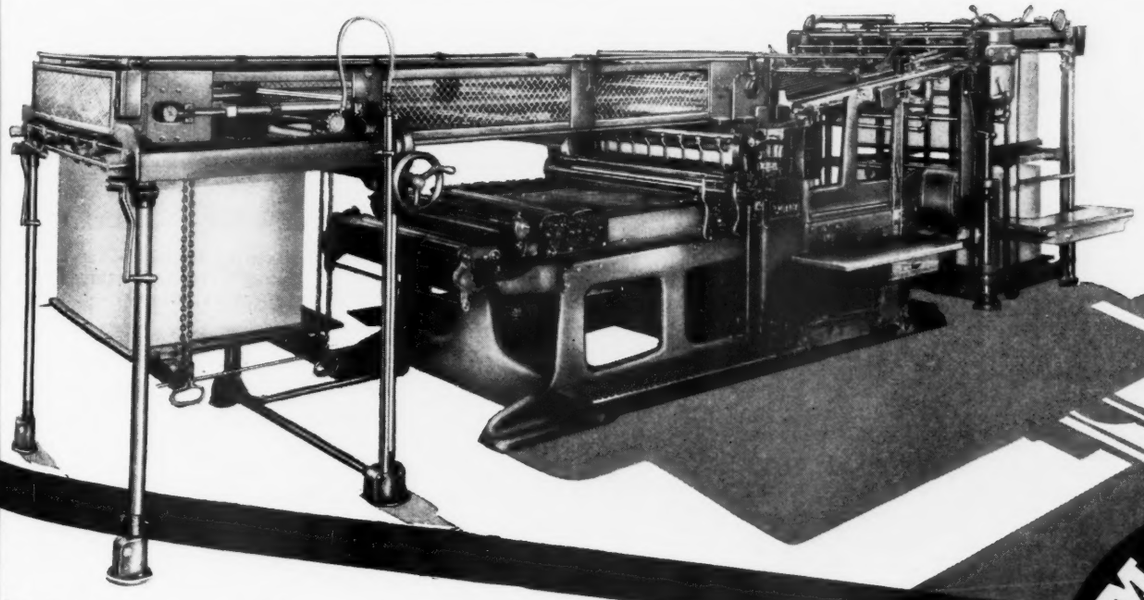
*Improved*
## SHEET HANDLING *through*

### –STREAM FEEDING
. . . is *the* modern method of feeding paper to high speed presses . . . developed for new efficiency and simplicity.

### –*Positive* CHAIN DELIVERY
. . . is the most satisfactory method of controlling sheets from the cylinder grippers to the delivery pile.



### ASK THE *Man* WHO RUNS ONE
. . . how modern Miehle #41 and #46 presses are giving higher production on a greater variety of jobs – on a wider range of paper stocks – than any other comparable letterpress equipment available today.



***TWO BASIC SIZES***

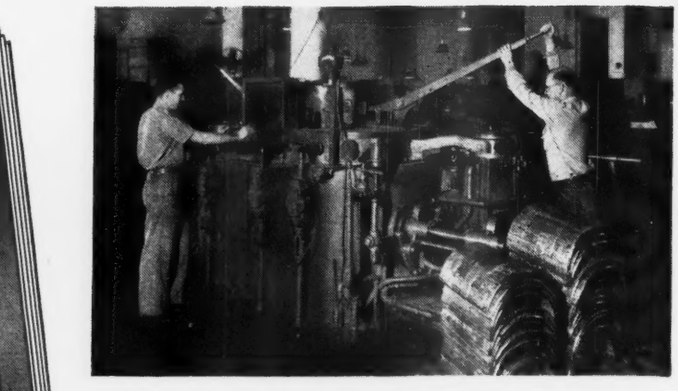
*41 Single Color*
*Max. Sheet 28" x 41"*
*46 Single Color*
*Max. Sheet 33¼" x 45½"*
*41 Two-Color*
*Max. Sheet 27¼" x 41"*
*46 Two-Color*
*Max. Sheet 32" x 45½"*

*Miehle Equipped Plants*
*are* **PROFITABLE PLANTS...**

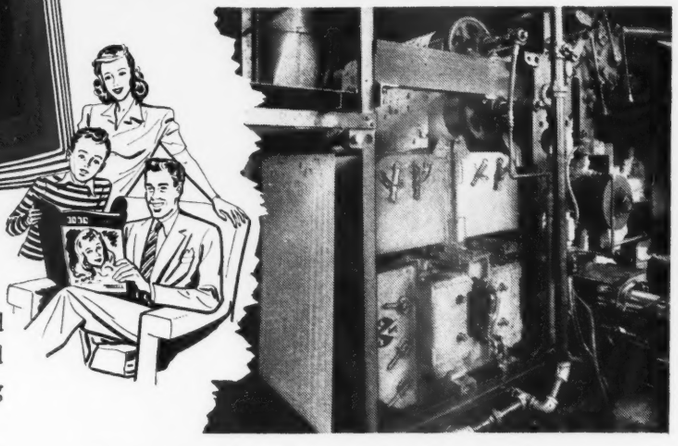
MIEHLE LETTERPRESSES
SINGLE and TWO COLOR

**Miehle Printing Press and Manufacturing Co.**
Chicago 8, Illinois, U.S.A.

# THROUGHOUT THE *Graphic Arts* When You Need Heat, You Need GAS



In the modern plant of a great southern newspaper this stereotype machine is always ready for action because it is Gas-fired and automatically controlled.



Mounted right in the press, this Gas-fired ink-drying unit has increased production and increased plate life in a specialty lithographing plant.

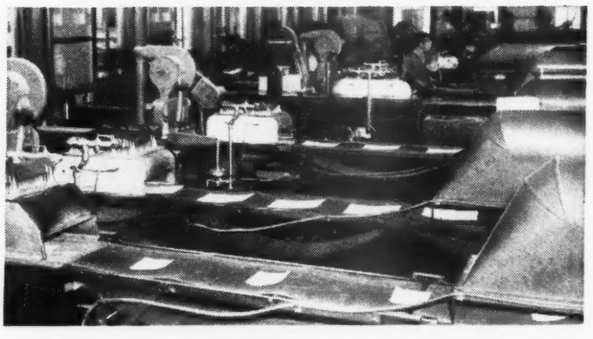
Throughout the fields of printing and publishing, and in all the related phases of the graphic arts, GAS and modern Gas Equipment perform the myriad heating tasks so vital to datelines and deadlines.

Behind the scenes in newspaper plants, magazine printing establishments, commercial and specialty houses, book binderies, the productive flames of GAS serve efficiently and economically in heating operations such as:

- **Ink Drying**
- **Wax Melting**
- **Stereotype Production**
- **Paper Curing**
- **Embossing**
- **Type Metal Melting**

But these are not the only possible GAS applications in the graphic arts industry. In fact, GAS is the ideal fuel for all types of heating operations because modern Gas Equipment is so flexible, time-saving and labor-saving.

In your modernization planning there's a definite place for GAS and modern Gas Equipment—and that's where your local Gas Company Representative can be very helpful.



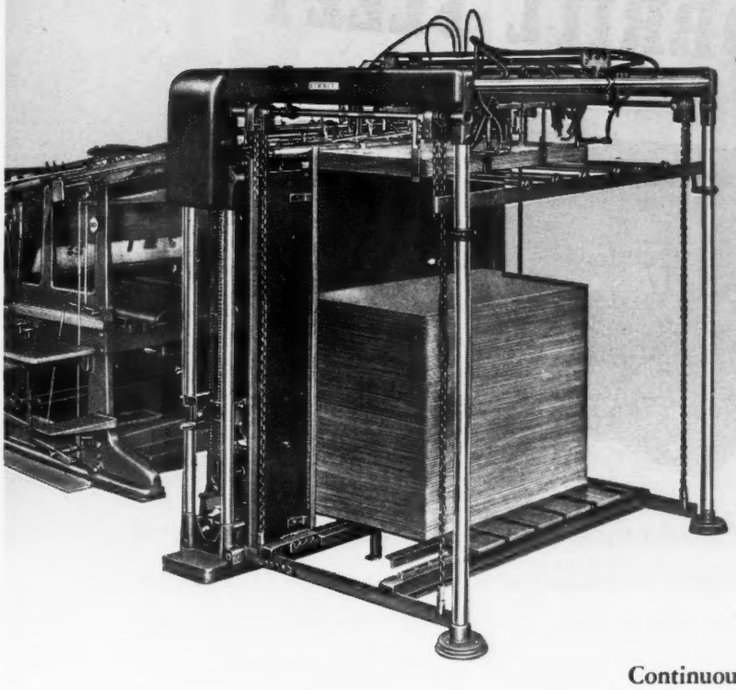
Fast drying at high temperatures is essential to the production-line processing of embossed printing—Gas-fired equipment provides the necessary heat for polymerization.

One of the largest manufacturers of closures uses this specially-designed tunnel dryer for drying of lithography on tin-plate.

**AMERICAN GAS ASSOCIATION**
420 LEXINGTON AVENUE, NEW YORK 17, N. Y.

MORE AND MORE...
THE TREND IS TO GAS
FOR ALL INDUSTRIAL HEATING

# *Feeds Cardboard to Hungry Presses*



## WITHOUT STOPS TO RELOAD!

**CONTINUOUS OPERATION, as every printer knows, is a step to increased output — and bigger profits. Steady production, uninterrupted by stops to reload and unhampered by fatigue, is secured with the Dexter Continuous Reloading Cardboard Feeder. Pacing the output of your flatbeds, its performance adds up to as much as a full hour's extra production per day. It separates and feeds cardboard from 15 to 40 points in thickness, works with flat bed printing presses, also with flat bed cutting and creasing presses, handles sheets from 32 x 45″ to 50 x 73″.**

**Think what the Dexter Continuous Reloading Cardboard Feeder could save in *your* pressroom by mechanizing an otherwise tedious and tiring manual job — and boosting the earning power of your presses. Then write for more information about this and other Dexter and Christensen Machines which are setting new standards of efficiency and economy in print shops and binderies.**

*Dexter and Christensen Machines*

*Sold and serviced by*

**Dexter Folder Company** • General Sales Offices, 330 West 42nd Street, New York 18, N. Y.

SALES REPRESENTATIVES: Chicago, Philadelphia, Boston, Cleveland, Washington, St. Louis

AGENTS: Dallas, Denver, San Francisco, Los Angeles, Seattle, Toronto, Montreal, Winnipeg . . . and in Foreign Countries

*Christensen Machines are built by Christensen Machine Company at Racine, Wis.*

A constant supply of the finest newspaper inks is assured when you buy from MORRILL—the largest manufacturer of web press and comic colors, as well as newspaper black inks. Thirty-one trucks operating from strategic supply points throughout the United States make it possible for MORRILL to maintain a prompt and efficient delivery schedule. No newspaper is too big and none too small to benefit from this nation-wide service, backed by 109 years of manufacturing experience.

These high-powered trucks serve as connecting links between our distribution and manufacturing centers and your publishing plants. That means ink delivery around the clock in fair weather or foul.

This fleet expansion is an essential part of the MORRILL SERVICE PLAN—created for the benefit of newspaper publishers and pressmen.

# GEO. H. MORRILL

GENERAL PRINTING INK DIVISION • 100 SIXTH AVENUE, NEW YORK 13, N. Y.

***WORLD'S LARGEST MANUFACTURER OF NEWSPAPER INKS***

**BOSTON 16, MASSACHUSETTS**
130 Clarendon Street

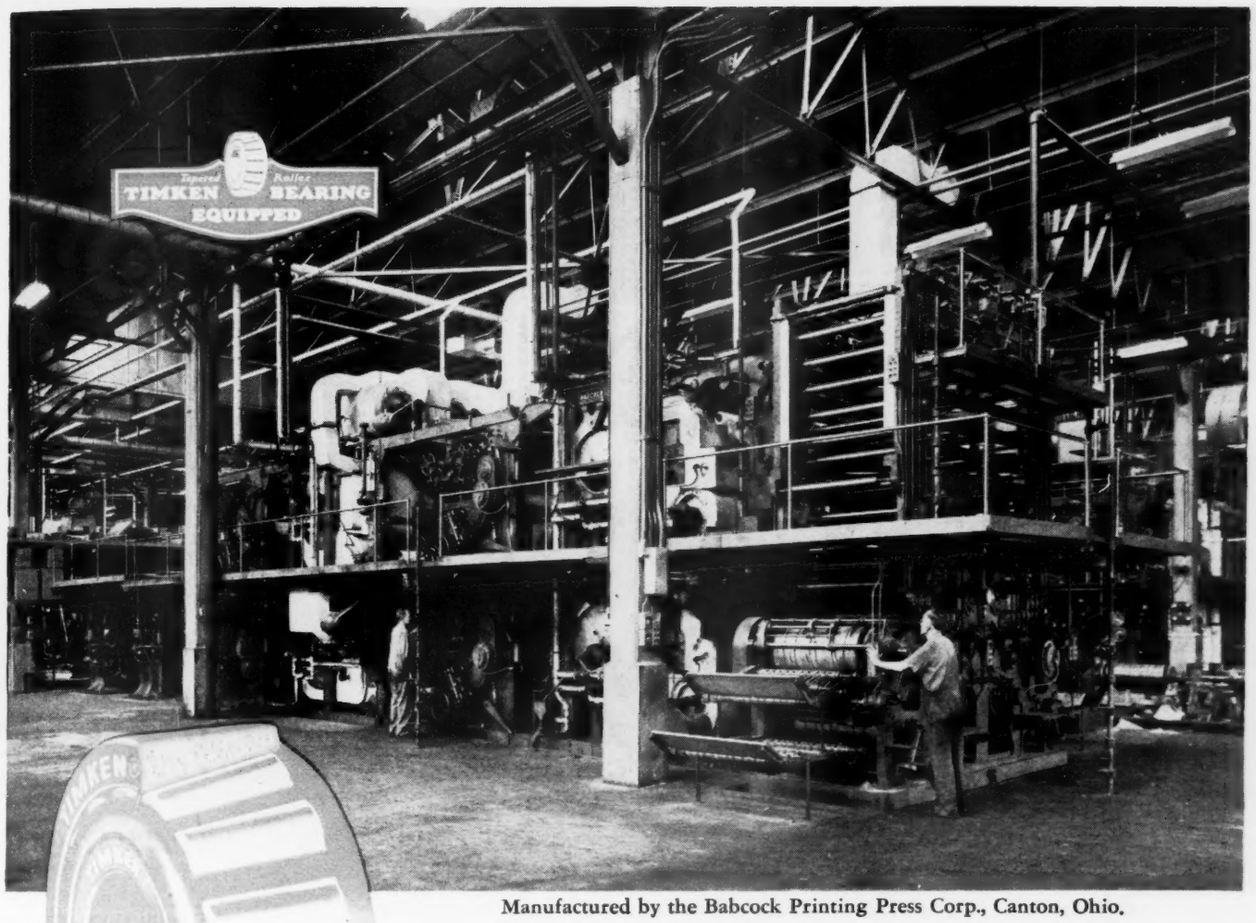
**CHICAGO 7, ILLINOIS**
42 North Racine Avenue

**ST. LOUIS 3, MISSOURI**
1514 Pine Street

**FORT WORTH 2, TEXAS**
1300 Throckmorton Street

**DETROIT 4, MICHIGAN**
8747 Brandt Street

Sun CHEMICAL CORPORATION




Manufactured by the Babcock Printing Press Corp., Canton, Ohio.

# TIMKEN® BEARINGS

## *help put LIFE in Babcock Presses!*

The Babcock double-deck high-speed magazine press shown in the photograph is installed in the plant of Cuneo Eastern Press, Philadelphia, concentrating on long-run magazine printing.

An important part of its job is the production of "Life" magazine — an assignment calling for speed, endurance, dependability and accuracy.

With all plate and impression cylinders mounted on precision Timken tapered roller bearings, friction and wear are out for good; radial, thrust and combined loads are constantly held in close check; cylinder alignment is preserved under all operating conditions. And "Life" makes its appearance on schedule!

No matter what type of presses you build or buy, they'll be better presses if Timken Bearing Equipped; make sure they are. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address "TIMROSCO".

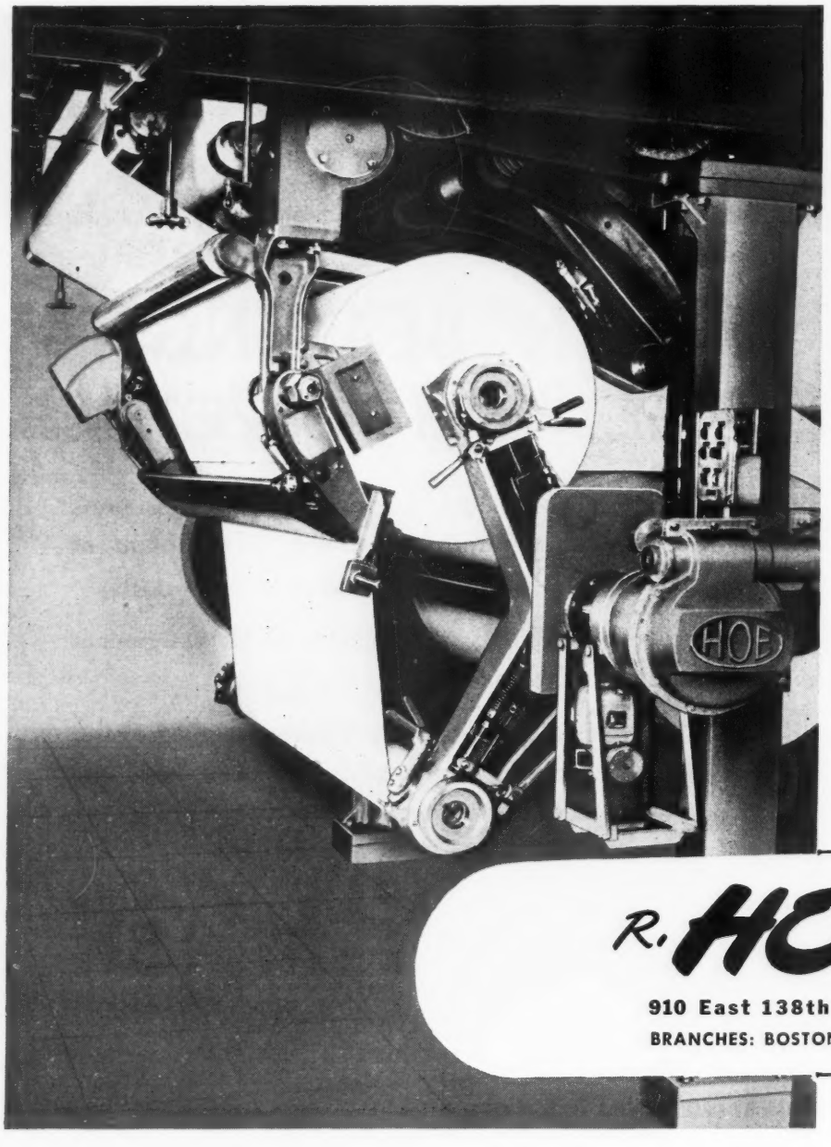
**TIMKEN**
TRADE-MARK REG. U. S. PAT. OFF.
*TAPERED ROLLER BEARINGS*

NOT JUST A BALL ○ NOT JUST A ROLLER ⬭ THE TIMKEN TAPERED ROLLER ⬭ BEARING TAKES RADIAL ⬭ AND THRUST →⬭← LOADS OR ANY COMBINATION ✳

# FOR MAXIMUM *Press Production*

Paper roll changes are made at full press speeds—production is uninterrupted — paper wastage is minimized — with Hoe 3-arm reels, electric running-belt tensions and full-speed web-splicing mechanisms.

While primarily applicable to Hoe Newspaper, Rotogravure, Magazine, Multi-Color and Web Offset Presses, many Hoe reels, tensions and web-splicing mechanisms have already been sold for installation on presses of other makes.




## *Note these advantages:*

Great visibility and simplicity.

Easy loading.

Electrically-controlled, non-web-abrading, driven belt tension.

Automatic Auxiliary Spindle Brake Tension picks up and maintains the same uniform tension during splicing sequences.

Simple, inexpensive splicing materials.

Push-button control throughout, including push-button operated splice.

One-piece knife severs web completely.

*Ask your Hoe representative for further information.*

**R. HOE & CO., INC.**

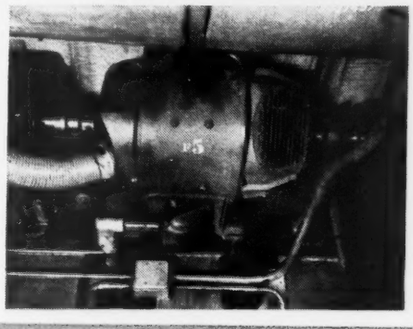
**910 East 138th Street, New York 54, N. Y.**

**BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO**

# Electronics makes news at Philadelphia

**Philadelphia Inquirer praises first G-E electronic printing press drive and control**

Line of new black-and-white presses at the Inquirer. Presses are driven by d-c motors and controlled electronically.



One of the G-E press drives. Ignitron rectifier tubes convert incoming a-c power to d-c power for smooth operation of the motors.

**"This new type printing press drive and control is giving us efficient, smooth, economical operation of our new presses," says C. W. Ginsberg, Chief Production Engineer, Triangle Publications, Inc. "The equipment requires a minimum of attention and maintenance, and our pressmen are enthusiastic about the way in which the system responds to their demands. We regard electronics as the answer to many of the large newspaper's production problems."**

That's testimony from a man long experienced in press-room operation. You'll want the facts about this revolutionary, now proven, type of equipment. Mail the coupon today for your copy of bulletin GEA-4670, "Now, Electronics Drives Printing Presses."

**EVERYTHING ELECTRIC FOR THE PRINTING INDUSTRY**

Consider the advantages of having everything from immersion heaters to press drives carefully co-ordinated to fit your individual requirements. ***Just outline your needs to a G-E Printing Specialist in our nearest sales office and let him help you with your printing problems.***

General Electric Company, Section A658-34
Apparatus Department, Schenectady 5, N. Y.

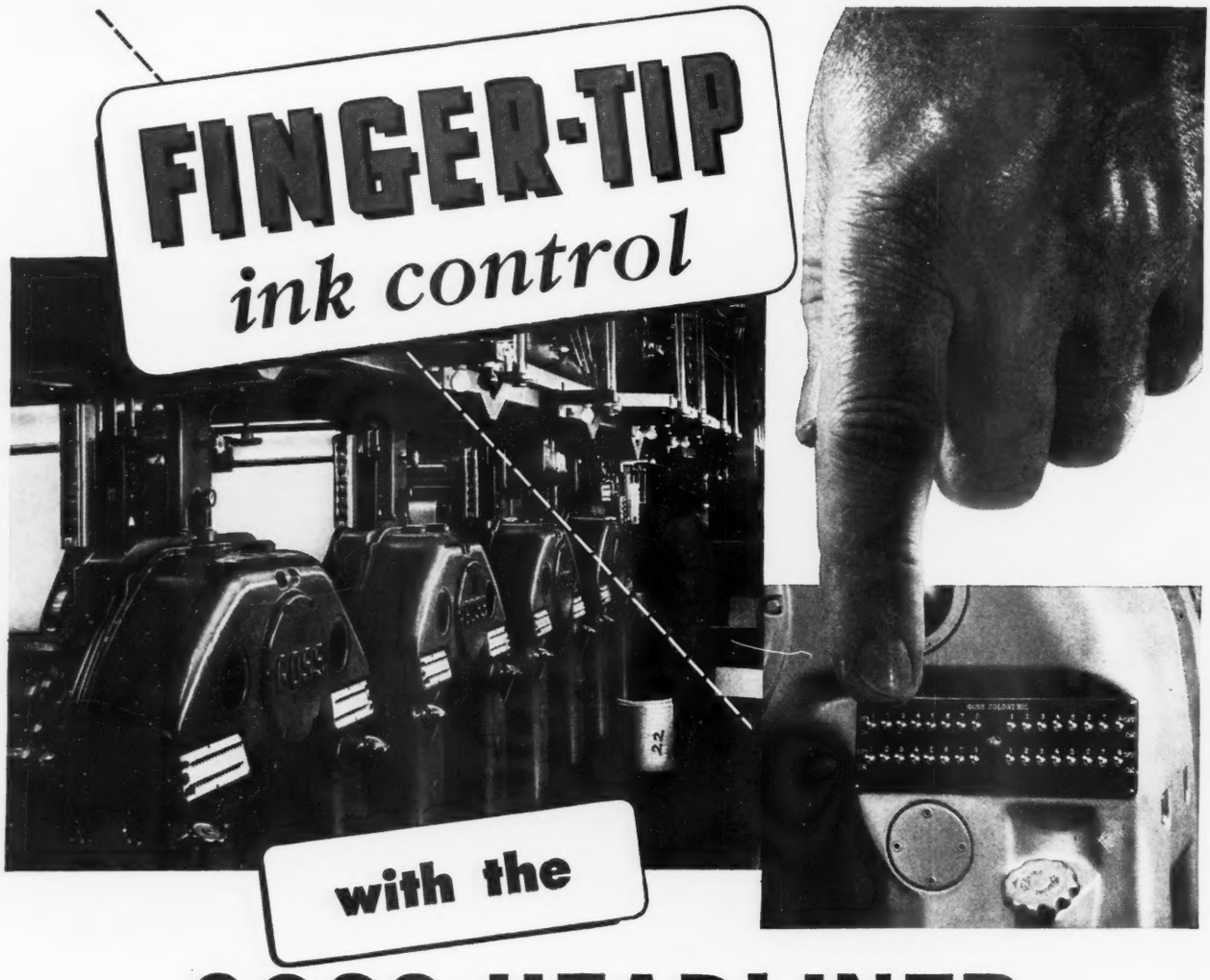
Please send me a copy of your bulletin GEA-4670 which describes the new electronic printing press drives and control.

Name.....

Address.....

City..... State.....

GENERAL ELECTRIC




# GOSS HEADLINER

It's Goss Colortrol that does it . . . provides positive finger-tip adjustment of all ink feed controls . . . quickly, easily, safely. Colortrol is conveniently located —*all on one side* instead of at the four corners of the unit. Colortrol is *waist high* instead of ankle high. It provides for page cut-off and presetting of ink feed and allows simultaneous increase or decrease of ink flow to any number of columns.

Control of color cylinders above the regular press units is brought to a panel accessible from the press room floor. This shoulder high panel is provided for use when any arrangement of color cylinders is used. Thus, Goss Colortrol eliminates kneeling, climbing or fumbling when adjusting ink flow and color tone.

Colortrol is just one of the many outstanding features of the Goss Headliner that combine to provide ease of operation, maximum flexibility of color production, top quality printing, greater safety, and more efficient operation at high speeds. That's why the Goss Headliner gets an enthusiastic O.K. from men who know presses . . . who are responsible for operation and maintenance.

**THE GOSS PRINTING PRESS COMPANY**
**1535 South Paulina Street, Chicago 8, Illinois**
*Duplex Division: Battle Creek, Michigan*
**GOSS PRINTING PRESS CO., LTD.**
**PRESTON, ENGLAND**

*it's* **GOSS** *again*

**"IT'S GOT TO BE GOOD TO BE GOSS"**

Style KP has Power Inker
Style KA has Automatic Inker

IT'S A
# CHALLENGE®

***It's the new Series K.*** And that's another way of saying ***clean, sharp, uniform proofs every time.***

The new Challenge Series K Proof Presses are all cylinder press design with the cylinder revolving while the reciprocating bed rides on anti-friction rollers. All three models are equipped with cylinder grippers and micrometer side guides, a foot trip to prevent offset on the cylinder packing during the return stroke, and a sliding feed board to give easy access to the cylinder packing. Two sizes in each style.

Get complete details today!

Style KE has 20" Ink Distributor

Style K has Ink Plate

613

**THE CHALLENGE MACHINERY COMPANY**

GRAND HAVEN, MICHIGAN

Challenge
Reg. U. S. Pat. Off.

*Over 50 Years in Service of the Graphic Arts*

DEALERS IN ALL PRINCIPAL CITIES

---

# 26

## *used by Printers, Lithographers, Binders—for*

**GATHERING AND ASSEMBLING**—DEXTER [illegible] FEEDER—For [illegible]

MARTIN ROTARY PERFORATOR, PERFORATOR AND CREASER—For [illegible]

**TRIMMING**—DEXTER [illegible] CUTTER—For [illegible]

**FOLDING**—CLEVELAND FOLDING [illegible]—For [illegible]

DEXTER FOLDING FEEDER, DOUBLE SIXTEEN and QUADRUPLE SIXTEEN FOLDERS—For [illegible]

**VARNISHING**—CHRISTENSEN [illegible] VARNISHING MACHINE—For all types of varnishing jobs.

**SORTING**—DEXTER SORTING MACHINE—For [illegible]

**BRONZING**—CHRISTENSEN HIGH SPEED BRONZER—For all types of sheet bronzing.

## *Dexter and Christensen Machines*

*All Dexter and Christensen Products are sold and serviced by*

Dexter Folder Company • General Sales Offices, 330 West 42nd Street, New York 18, N. Y.

SALES REPRESENTATIVES: Chicago, Philadelphia, Boston, Cleveland, Washington, St. Louis

AGENTS: Dallas, Denver, San Francisco, Los Angeles, Seattle, Toronto, Montreal, Winnipeg . . . and in Foreign Countries

*DEXTER Machines are built by Dexter Folder Company at Pearl River, N. Y.*
*CHRISTENSEN Machines are built by Christensen Machine Company at Racine, Wisc.*

# *Dross is a Monster...*

JMLco F-EEI

## ...subsisting chiefly on tin!

Every time you melt type metal you get Dross, a monster which eats up essential ingredients of the metal, *especially tin.*

*FEDERATED MOR-TIN* used regularly according to formula restores tin lost in dross. And you need not make a large cash outlay for MOR-TIN; do it the easy way — trade in your dross.

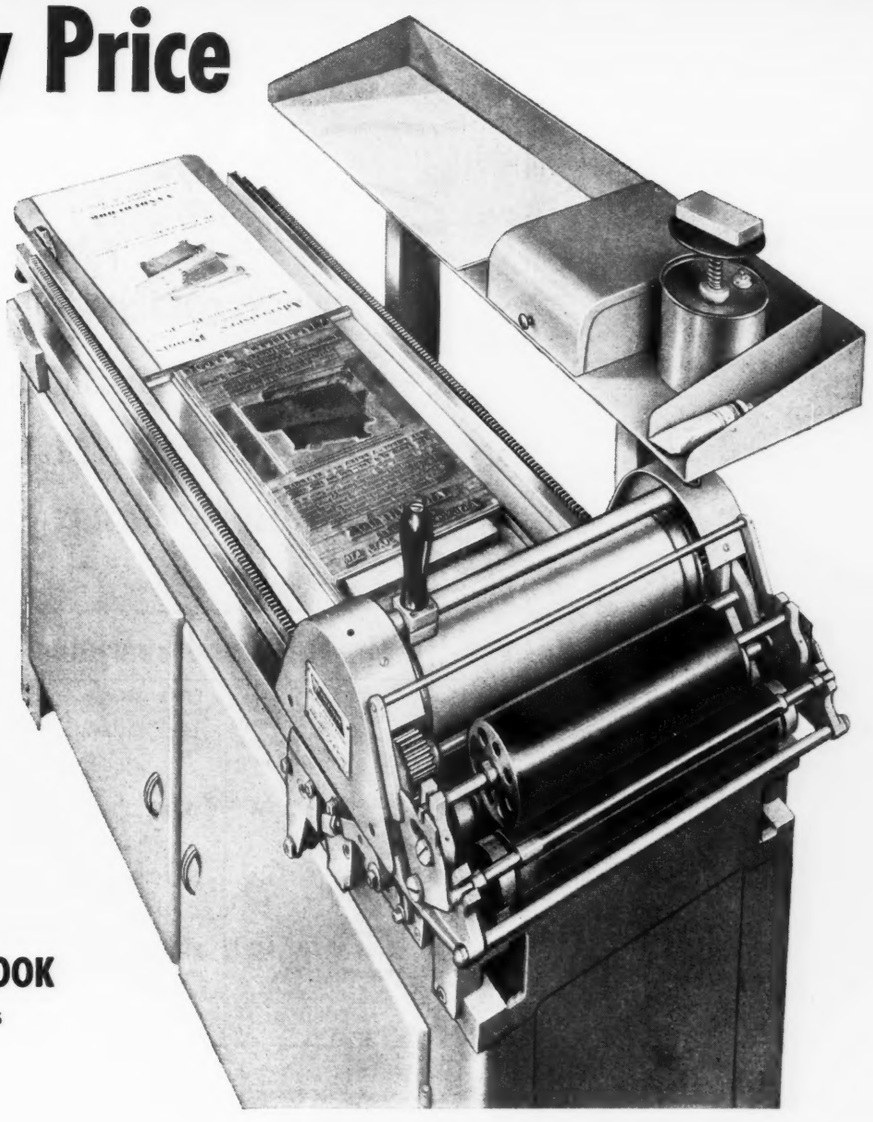
You get perfect casting and you cut operating costs by following the Federated MOR-TIN reconditioning plan.

To obtain further information, or to order — MOR-TIN stereotype, linotype, electrotype, monotype and all other metals for the graphic arts industry—call or write any of Federated's eleven plants or twenty-five sales offices across the nation.

**Federated METALS**

**Division of American Smelting and Refining Company, 120 Broadway, New York 5, N. Y.**

# New Low Price Proof Press



**No. 05* VANDERCOOK**
Form size: 14x24 inches

**New** . . . . . low priced general purpose proof press especially suitable for galley proofs of machine composition and made-up pages.

**Simple** . . . . . no cylinder packing to change and the simple, efficient inking mechanism requires no adjustments whatsoever.

**Speedy** . . . . . impression cylinder and inking roller trips are entirely automatic. Anyone can quickly produce good proofs at high rate of speed.

**Low Upkeep** . average life of impression cylinder is five years, and of inking rollers, two years. Both can be quickly changed at small expense.

**Compact** . . . . extra large steel cabinet with ample storage space, convenient shelf for paper, rag bin, cleaning can and ink.

*One of the eight Vandercook Proof Presses sold exclusively in the U.S.A. by*

Fourteen other models sold exclusively by Vandercook & Sons, Inc.

## AMERICAN TYPE FOUNDERS

*Branches in Principal Cities*

An ATF Associate

# Speaking of Figures

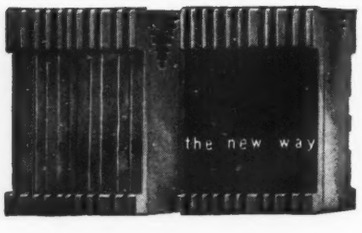
**SURVEYS COVERING OVER 2,000,000 LINES OF NEWS COMPOSITION SHOW AN AVERAGE OF 1/3 FEWER ERRORS THROUGH THE USE OF MATRIX CONTRAST SERVICE.**

## Total and averages of 53 Newspapers

| | Before Installation | | | | After Installation | | | |
|---|---|---|---|---|---|---|---|---|
| | Total number machines in plant | Lines set | Total errors | Total errors per 100 lines | Lines set | Total errors | Total errors per 100 lines | Per cent reduction in total errors |
| Plants with 6 to 15 machines | 195 | 603,402 | 26,009 | 4.31 | 686,344 | 19,314 | 2.81 | 34.80 |
| Plants with 16 to 30 machines | 371 | 715,450 | 32,177 | 4.50 | 809,901 | 23,982 | 2.96 | 34.22 |
| Plants with more than 30 machines | 886 | 828,478 | 51,350 | 6.20 | 868,117 | 37,329 | 4.30 | 30.65 |
| | 1,452 | 2,147,330 | 109,536 | 5.10 | 2,364,362 | 80,625 | 3.41 | 33.14 |

These figures represent the results of accurate audits made *before* and *after* installation of Matrix Contrast Service. All detailed figures, and in most cases the actual proof sheets audited, are available for inspection at any time (subject to authorization of the plants concerned). Note the remarkable uniformity of the average savings effected in plants of various sizes. This tabulation includes only NEWS composition. The average savings on ad composition is 44.05%.

*Uncle Mat says:*
Write our nearest office for complete information on the installation and maintenance of Matrix Contrast Service in your plant.




## Matrix Contrast Service

**MATRIX CONTRAST CORPORATION**

Empire State Building, New York 1, N. Y. — 326 W. Madison Street, Chicago 6, Ill. — 1105 Trenton Street, Los Angeles 15, Calif. — Sole licensees of the Percy L. Hill Matrix Contrast Patent No. 1,796,023, other patent pending. European Agents: Funditor, Ltd., 3 Woodbridge Street, Clerkenwell Green, London, E. C. 1.

# Phototypesetting

## *developments in Europe — One English and one Dutch machine — Each machine comparable in principle to operation of Monotype and Ludlow systems respectively*

GIVE
THRU RED CROSS

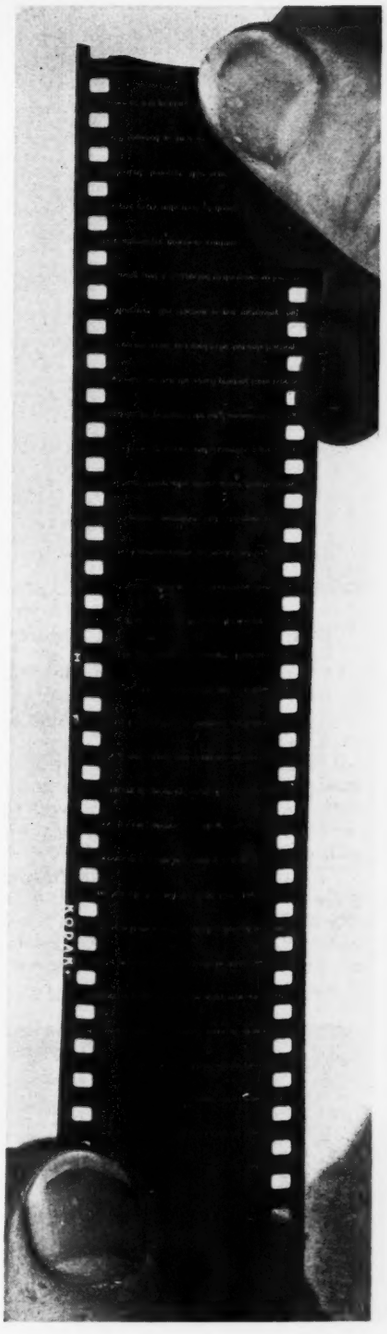


Fig. 1.—This is a section of 35 mm. roll film produced on the Rotofoto Line Machine (which corresponds to Monotype casting machine). The negative bears lines of fully justified type matter in approx. 3½ pt. size. The lines may be enlarged considerably—in this instance the proof (See Fig. 2) bears lines reproduced in 10 pt. size from this film. The film is approx. 1⅜ in. wide. This film is 10 ft. long and carries 64 lines per ft.

Printing Equipment Engineer, *in reporting upon two phototypesetting developments in Europe, regrets it cannot print complete details at the moment. Enough information is at hand, however, to give our readers an understanding of the principles of operation. One of the equipments is called Rotofoto and was developed by George Westover, Consulting Engineer, Coventry, England.*

*The other machine is called Hadego Photocompositor and is the invention of Dr. Ir. H. V. J. A. de Goej, Netherlands.*

MOST of our readers may easily comprehend the Rotofoto System of phototypesetting by comparing it mentally with the Monotype method of type composition. In fact, the standard Monotype keyboard is used to produce the paper ribbon which in turn is employed to actuate the Line Machine which produces the 35 mm. negative film in place of the metal type ordinarily cast on the composition casting machine.

The Rotofoto System of photographic typesetting follows established machine single-type composition practice and slug composition practice in correction. The unit of correction is a line. No provision is made to correct single types or any other units less than a line.

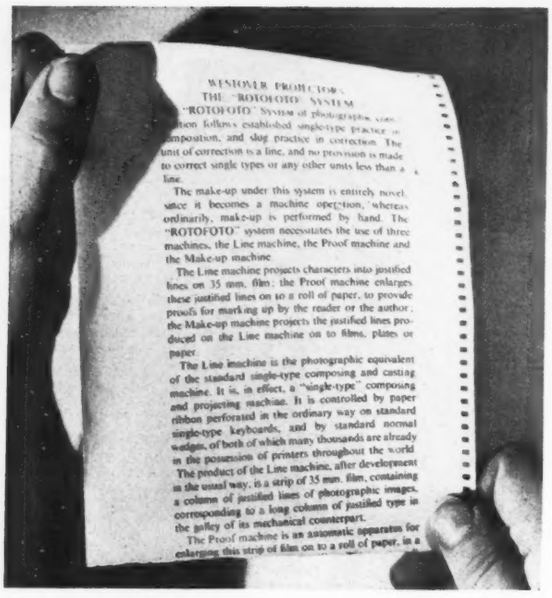
The Rotofoto System also includes the method and machine for complete makeup in film form. Ordinarily make-up operations are done by hand work.

### Products of Rotofoto System

The product of the Rotofoto system is a transparency of the finished page to the specified layout and the required point size, leading, measure, and type area, ready for mounting on the glass plate preparatory to printing down on the carbon tissue or lithographic plate. This product may be either positive or negative and may be read forward or reverse (mirrorwise) in either alternative, viewed on the emulsion in all cases.

According to Mr. Westover, the Rotofoto system of photographic composition has no immediate or direct application to letterpress printing, but is intended solely for use with photographic printing processes such as direct photo-litho, offset photo-litho and photogravure, in all of which the provision of transparencies is an essential factor in the sequence of operation.

(*Continued on Next Page*)



WESTOVER PROJECTORS

THE "ROTOFOTO" SYSTEM

"ROTOFOTO" System of photographic com-
tion follows established single-type practice in
omposition, and slug practice in correction. The
unit of correction is a line, and no provision is made
to correct single types or any other units less than a
line.

The make-up under this system is entirely novel,
since it becomes a machine operation, whereas
ordinarily, make-up is performed by hand. The
"ROTOFOTO" system necessitates the use of three
machines, the Line machine, the Proof machine and
the Make-up machine

The Line machine projects characters into justified
lines on 35 mm. film; the Proof machine enlarges
these justified lines on to a roll of paper, to provide
proofs for marking up by by the reader or the author;
the Make-up machine projects the justified lines pro-
duced on the Line machine on to films, plates or
paper.

The Line machine is the photographic equivalent
of the standard single-type composing and casting
machine. It is, in effect, a "single-type" composing
and projecting machine. It is controlled by paper
ribbon perforated in the ordinary way on standard
single-type keyboards, and by standard normal
wedges, of both of which many thousands are already
in the possession of printers throughout the world.
The product of the Line machine, after development
in the usual way, is a strip of 35 mm. film, containing
a column of justified lines of photographic images,
corresponding to a long column of justified type in
the galley of its mechanical counterpart.

The Proof machine is an automatic apparatus for
enlarging this strip of film on to a roll of paper, in a

Fig. 2.—Miniature reproduction of a Rotofoto roll paper proof projected in the Proof Machine from the film shown in Fig. 1. The proofreader and the author mark their corrections on the proof in the same manner as with proofs taken from hot-metal-cast type on a galley. Type matter reproduced, in this instance is 10 pt. size, 20 picas wide, leaded 1 pt. on the sensitized paper.

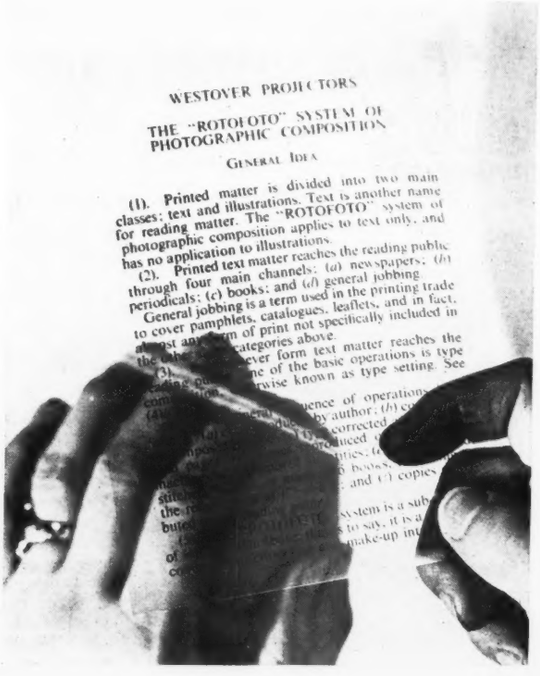
under the master negative (which would be the die case on a hot-metal Monotype caster). It is, in effect, a single-type composing and photographic projecting machine. The machine is actuated by paper ribbon perforated in the ordinary way on standard single-type keyboards and by standard normal wedges, many thousands of which are used by printers throughout the world. The product of this Line Machine, after development in the usual way, is a strip of 35 mm. film containing a column of justified lines of negative photographic images, corresponding to a long column of justified hot-metal-cast type in the standard printer's galley. Composition speed is

### Equipment for Rotofoto System

In the Rotofoto System four machines are used—the Monotype Keyboard, the Line Machine, the Proof Machine and the Makeup Machine.

*The Monotype Keyboard* — Since the standard Monotype Keyboard and its product—the paper ribbon—are employed to actuate the Line Machine, we'll pass comment.

*The Line Machine*—The Line Machine is the photographic equivalent of the standard single typecasting machine. In this machine characters in justified lines are projected one by one on a roll of 35 mm. cine film carried in a camera



WESTOVER PROJECTORS

THE "ROTOFOTO" SYSTEM OF PHOTOGRAPHIC COMPOSITION

GENERAL IDEA

(1). Printed matter is divided into two main classes: text and illustrations. Text is another name for reading matter. The "ROTOFOTO" system of photographic composition applies to text only, and has no application to illustrations.

(2). Printed text matter reaches the reading public through four main channels: (a) newspapers; (b) periodicals; (c) books; and (d) general jobbing.

General jobbing is a term used in the printing trade to cover pamphlets, catalogues, leaflets, and in fact, almost any form of print not specifically included in the categories above.

Whatever form text matter reaches the public in, one of the basic operations is type setting, otherwise known as type setting. See

Fig. 3.—The final product of the Rotofoto System is a transparency, either positive and either forward or reverse (mirrorwise) of the complete page to the required type area, point size and leading, ready for imposing on the glass plate for printing down on the lithographic plate or on carbon tissue for use with gravure plate or cylinder.

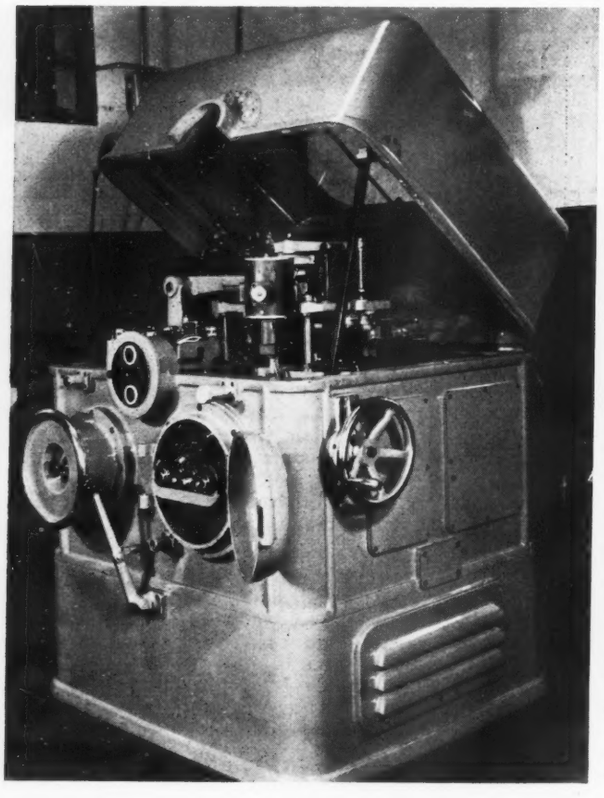


Fig. 4.—This illustration shows the Rotofoto Line Machine which is used to produce the film shown in Fig. 1. The cover has been raised to expose machine parts. This machine corresponds to the Monotype hot-metal typecasting machine. Readers will recognize some of the component parts of the hot metal machine. It has been engineered to produce 35 mm. roll film negatives bearing fully justified type matter. The perforated paper ribbon from a Monotype keyboard actuates the mechanism. The Monotype matrix case is replaced with a photographic negative of the type characters, (See Fig. 7). Machine operates at approx. same speed as Monotype caster.

said to be about 120 exposures per min., or 7000 ens per hr.

*The Proof Machine*—This is an automatic apparatus for enlarging the type characters on the 35 mm. strip of film produced in the Line Machine to a roll of sensitized paper line by line, in a point size convenient for reading. (Usually of a magnification of 3X). After development, this roll corresponds to the ordinary typographic galley proof. It is marked for corrections by the proofreader and the author in the same way as for proofs, taken from hot-metal-cast type. The proof is normally forward and positive. There are no restrictions as to corrections.

After the proofs have been read, they are returned to the Monotype keyboard where they are reset. The paper ribbon containing the correction perforations is taken to the Line Machine where the corrections are projected on separate 35 mm. roll film containing the corrected and justified lines in negative form similar in line length and point size to the original composition which is to be corrected.

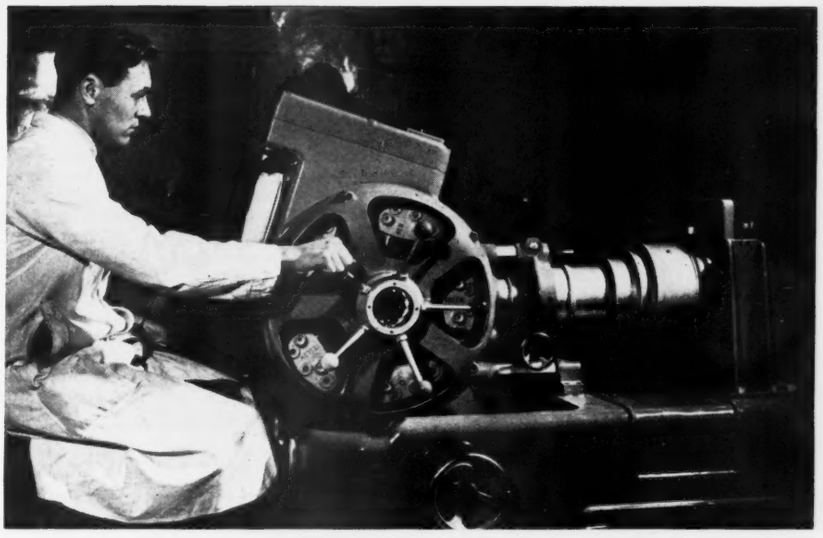
The negative roll film containing the correction lines is run through the Proof Machine and proofs are produced on the sensitized paper which are similar to the original proofs.

The proofs are then cut up into pieces of the proper size, the corrected lines being pasted in proper position. If the composition is in book form, the proofs are cut to page size and the folios and headings, perhaps of different point size, are pasted in proper position. These pasteups serve only as a guide to the operator of the Makeup Machine.

*The Makeup Machine*—The Makeup Machine is employed to project the justified lines which are on the 35 mm. film and which was produced on the Line Machine, to films (transparencies), plates or paper. The machine is controlled by an operator, who is guided by a key proof (pasteup) of the actual page which is being made up. The key proof consists of pasted-up pieces of paper proofs, previously projected in the Proof Machine. The pasteup is made up of proofs fastened in proper position to indicate plain text matter, corrected lines, including overruns, chapter heads, page heads, folios, signature symbols, space lines, and any other relevant details of the page which is being processed for makeup.

In no case is the 35 mm. film (the product of the Line Machine) or the finished page film (the product of the Makeup Machine) cut up or joined up in any way. The actual cutting and pasting-up operation is confined to the paper proof, which is used as a guide only and not for actual reproduction.

The Makeup Machine is automatic insofar as the projection of correct lines of text and repetition of space lines are concerned, but is selective under the manual control of the operator for all other details.



(Photo courtesy British Information Service

**Fig. 5.—View of the Rotofoto photographic typesetting makeup machine. It consists essentially of a cylindrical lamp housing. In the forepart of the illustration may be seen the circular container in which are located five stations. Each of the stations contains a roll of 35 mm. film produced by the line-projector in Fig. 4. On one of the containers is placed the film bearing the text matter, on the next the film bearing the corrections, on the next the page headings, and the like. As an aid to the operator, the line about to be projected on the transparency is also thrown on a ground glass screen. A correction and pasted-up layout of the page is furnished the operator. This is visible just above his arm. Any line from any of the films in the film housing can be projected at will by the operator pulling a lever. The main text matter is projected on the transparency a line at a time. This operation is automatic but the projection of display lines, etc., is selective. This operation proceeds automatically until a line needing correction is encountered, when the film bearing the appropriate corrected line is brought into projection position by revolving the film holder. Proofs and film are identified by operator by color code.**

### Making the Transparencies

The final transparencies used for making the printing plates are projected on a makeup machine. This consists essentially of a cylindrical lamp housing around which are located five stations, each fitted to take a roll of the 35 mm. film produced by the line-projector. On one of these stations is placed the film bearing the main text matter, on the next the film bearing the corrections, on the next the page headings, and so forth.

Any line from any of these films can be projected at will by the operator pulling a lever. The main text matter is projected on the transparency a line at a time. This proceeds automatically until a line needing a correction is encountered, when the appropriate corrected line is projected by revolving the film holder. The printing down of the main text matter is then resumed. This system eliminates the necessity for cutting film.

As an aid to the operator, the line about to be projected on the transparency is also thrown on a ground glass screen. The operations are simple and rapid, and produce transparencies of high fidelity. Each page is "assembled" separately, and the imposition of the pages is carried out in the normal manner.

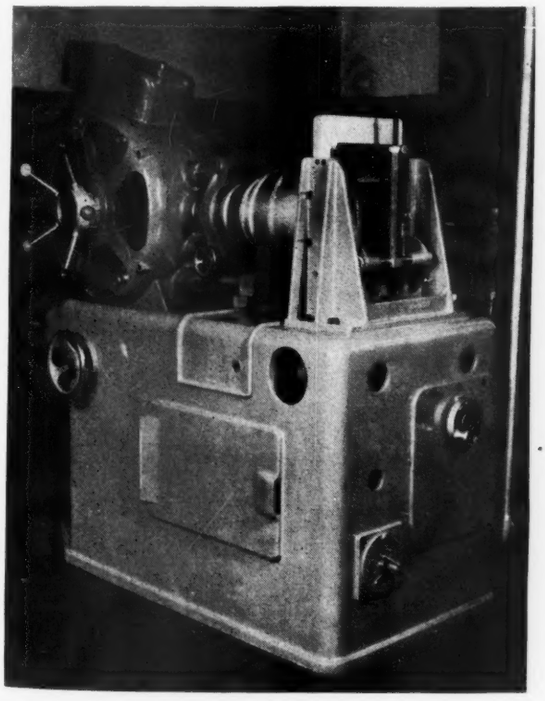


**Fig. 6.—View of opposite end of Makeup Machine shown in Fig. 5. The roll of film (upon which the transparency is produced) is contained within the holder at right. Electric conduit containing wires for projecting light and power may be seen at right.**

**From 12 to 20 lines per min. are projected or equivilant of 3 to 5 min. per page.**

### Type Sizes

*Printing Equipment Engineer* is indebted to PATRA[1] for the following description related to making the final transparencies employed in producing offset-lith plates and gravure plates or cylinders.

Any font of type can be employed by using the appropriate master negative in the line machine. Type sizes are controlled either by the magnification employed or, if desired, a separate master negative can be used for each size. The present practice is to use three negatives

[1]Printing, Packaging and Allied Trades Research Association, Leatherhead, Surrey, Eng.

(Photo courtesy British Information Service)

**Fig. 7.—View of Rotofoto photographic negative "matrix" which is substituted for conventional matrix or die case in Monotype hot-metal type setting machine. Negative letter characters are arranged on glass in 15 rows consisting of 15 characters each, graduated from five units to 18 units. Area of glass plate bearing negative letter characters (exclusive of frame) is 3 in. square. Master negative is placed flat between 60W. bulb and the 35 mm. film in the line machine (Fig. 4).**

to cover the complete range of composition sizes from 5 pt. to 14 pt., thus 8, 9, and 10 pt. type would be produced from the same master negative by altering the magnification. Depending on the chemical developing process used, positive or negative page transparencies may be produced. These may be either forward or backward reading with the emulsion side of the transparency uppermost in all cases so that the thickness of the film does not have any influence on the finished result.

### Mechanical Operation

Harold E. Waite, writing in *Typographical Circular*, Manchester, makes comment with respect to the Line Projecting Machine (corresponds to the Monotype typecasting machine) as follows:

"When compressed air enters the machine through the perforations (in the paper ribbon), similar movements take place as in the caster, two pins are blown up, one in the front and the other in the rear pin block, controlling the movement of the negative frame and positioning the selected letter over the camera. A beam of light takes the place of the centering-pin, passing through the letter and the camera, and photographing the image on to the film beneath.

"Spacing between the words is secured in the usual Monotype way. The S perforation brings into operation the space transfer wedge, which in conjunction with the normal and coarse and fine justification wedges controls the movement of the film. At the end of the line the double justification perforations, in addition to setting the wedges for spacing out, also move the film forward a distance ready for the next line.

"The limit of line measure is at the moment 24 ems (picas), although developments are being explored for using a 60 mm. film on the line projector, which will permit of a wider measure."

## *Hadego Photocompositor*

*PRINTING Equipment Engineer* has received from G. M. van Wagtendonk, Amsterdam, Netherlands, a copy of the address he delivered before the International Congress of Master Printers, Stockholm, Sweden, 1948. From it we have abstracted Mr. Wagtendonk's discussion about the Hadego Photocompositor, as follows:

"This machine, an invention of Dr. Ir. H. V. J. A. de Goej, Netherlands, has been built especially for large type sizes. By using matrices of one fixed size, it is possible to make enlargements and reductions. The possibilities vary from 15 to 86 pts. and from 19 to 115 pts. The matrices are made of plastic, on which the characters are affixed by chemical means. The Hadego machine may be compared with the Ludlow. The matrices are composed in a special composing stick. When required for gravure, negative matrices are used, while for offset positive matrices are obtainable.

"After the composing stick is brought into the compositor, the enlargement or reduction required is focused. This may be read exactly from a scale on the control panel. Focusing is completely automatic. The photo is taken by pressing a button on the control panel. The shutter is opened electrically and after a certain time electrically closed. Simultaneously the exposing lamps are switched on and off.

"The holder contains a film of a maximum size of 11½ in. by 16 in. After each exposure a handle is pulled for the purpose of moving the holder up as far as necessary to bring the following line exactly under the first. There is also a device for leaded matter. The length of the non-exposed film is indicated on a control panel. A red light tells the operator if there is no holder in the machine or if the slide is not opened, a green light means that the slide is open and exposure may take place. An orange light indicates that the end of the film will be reached within a few inches.

"This machine may render good service for magazine work such as headlines etc., display work, and many other purposes."

# *Miller Pension Plan*

MILLER Printing Machinery Co. has announced that 100 per cent of its eligible employees have accepted a contributory Pension Plan, effective as of January 1, 1949. Some 440 of the company's 750 employees are covered by the plan. The past service cost to the company, in addition for substantial future service payments, will be in excess of $1 million of which about $400 thousand is derived from a superseded Profit Sharing Plan. The remaining amount will be retired by the company over a period of from 10 to 20 years. Apart from a substantial pension (in addition to Federal Old Age Benefits), each member of the plan is covered by a death benefit equalling one to one-and-a-half year's pay. The employee is further covered by a total disability benefit which provides substantial monthly payments for total disability resulting from any illness or accident occurring outside of the company's employ.

The firm will continue its employee-contributory group insurance coverage of each employee, which provides medical and hospitalization expenses to each employee and to dependents of employees, as well as a substantial death benefit. The Miller Printing Machinery Co. will send a booklet, in which the plan is described, to any concern in the industry genuinely interested in retirement plans, so long as the limited supply lasts.

**William J. O'Toole, now Asst. Western Manager, Matrix Contrast Corp.**

William J. O'Toole has been appointed Assistant Western Manager of the Matrix Contrast Corp., according to an announcement made recently by Jack Faris, Western Manager. In his new capacity, O'Toole will handle Southern California sales and will supervise the scheduling of service work in all of Matrix's Western area. A Californian for 14 years, he attended the University of Southern California before the war. In the course of his Navy service, he saw four years duty in the Pacific.

# Aniline Printing Process

**Principles of today's process and its utility—Print film of fluid ink on paper and other materials by means of rotary press, rubber plates and rubber design rolls**

**By PHILIP L. WALLACE***

**Rotary Printing Machinery Corp., Syracuse, N. Y.*

II.

SINCE aniline printing is done by the use of rubber plates exclusively, the Graphic Arts industry is indeed indebted to those responsible for this one achievement. In fact, rubber plates proved so successful in rotary aniline printing that they were soon recognized and applied to sheet-fed flatbed presses and are now also used by printers having rotary web oil ink presses. Probably the greatest factor in the success of rubber plates has been the fact that they are adapted to all types of paper stock. They transfer a film of fast drying inks, using only a kiss impression, onto the sheet at high speeds both in single and multi-color work, without offsetting. Rubber plates are effective for use in printing difficult materials such as cellophane, pliofilm, acetate, foil, tissue, glasseine, parchment and, particularly, container board, the surface of which is usually uneven and having a "hard-and-soft" texture throughout.

### Qualities of Rubber Plates

Rubber plates effect a considerable saving in makeready time. Because of their ability to print with kiss impression there is a considerable reduction in ink consumption and in wear and tear on the press. Another factor of no small importance is the low cost of duplicating plates, as well as the low cost per impression. It is common practice for converters to obtain at least 1 million impressions from a single rubber plate. In fact, in many instances, aniline press users have recorded runs of more than 3 million impressions with rubber plates.

With modern techniques in handling the various crude and synthetic rubbers, sharp line reproductions are obtained as fine type and 80 line screen work. Another important item in the successful use of rubber plates today is that they can be molded in almost any degree of hardness. The degree of hardness is dependent upon the requirements of the material upon which the rubber plate will print.

With the development of modern molding technique and the proper use of photoengraving methods, suitable matrices are made from which precision rubber plates are produced. Rubber plates are built with as nearly perfect dimensional precision as is mechanically possible, with tolerances of 0.0005 in. to 0.001 in. These figures are based on working from good original material. Such tolerances cannot be maintained when working from a type form the elements in which vary from 0.003 in. to 0.004 in. or more.

### Coating and Lacquering

One of the many reasons why aniline printing is associated with versatility is that coating and lacquering can be done successfully at relatively high speeds, on the aniline press. With the aid of artificial drying means and where the solid content of the color pigment is formulated to meet a specific requirement, the printer can obtain exceptional results in coating and tinting operations. The selection of paper stock however, must be suitable to such operations. Lacquering is an operation which is readily handled on an aniline press, but (as is true in any other method of lacquering) this operation requires proper drying equipment and ovens which must carry off the volatile solvents often prevalent in lacquers. It is common practice, with the use of modern aniline equipment, to coat and lacquer in one operation. The major factor in the success of this operation is the type of drying.

Coating or lacquering is accomplished with rubber rollers. The rubber compound and the specific hardness of the rollers must be selected in accordance with the material to be applied. This is indeed important, particularly when lacquering. Many lacquers contain ketone and hydrocarbon solvents which are detrimental to all crude rubbers and to most of the synthetic rubber compounds. Coating and tinting operations present little or no problem since coating solvents are usually of the alcohol and ester group. The use of pyroxylin coatings has found favor for specific applications while many coating operators are going to water-base emulsions with excellent results.

### Drying

The demand for greater printing speeds has been the principal requisite for the use of drying equipment. Where non-absorbent surfaces are being printed, particularly cellophane, pliofilm and similar plastic materials, drying ovens and ducts are of utmost importance. Considerable heat energy is required for printing such non-absorbent materials. Flame heat often is used to great advantage—usually close to the web for a fusing action of the ink when printing cellophane. The most widely used methods of heating are electricity, gas and steam. The fuel selection is dependent upon the type of work and the cost involved. The cost usually varies in each locality. The most effective and probably the most popular drying means used are ovens with combination blowers operating in conjunction with either gas fired units or electric heating elements. Where a variety of work is required, blower and heat controls are manually operated to provide sufficient heat and air velocity.

### Thermostatic Operation

On the other hand, when a manufacturer specializes in one type of printing requiring continuous controlled heat energy, blower and heating units can be thermostatically operated through interlocks with push button stations for increasing or decreasing the blower speed and heat as the press is accelerated or decelerated. The construction of the oven varies since some operations are of a hazardous nature due to the combustible solvents, particularly in lacquering operations. Therefore, it is essential to give thorough consideration to problems of this nature in building suitably controlled devices for protection required by underwriters.

The most common type of oven used is of simple sheet metal construction. However, a more satisfactory type of oven utilizing a heat-resisting material is more suitable since it prevents heat losses. It is more economical to operate and as economical to construct. The length of the ovens varies because sufficient length for drying of the paper web at reasonable press speeds must be considered. The heating unit must have sufficient capacity to deliver proper

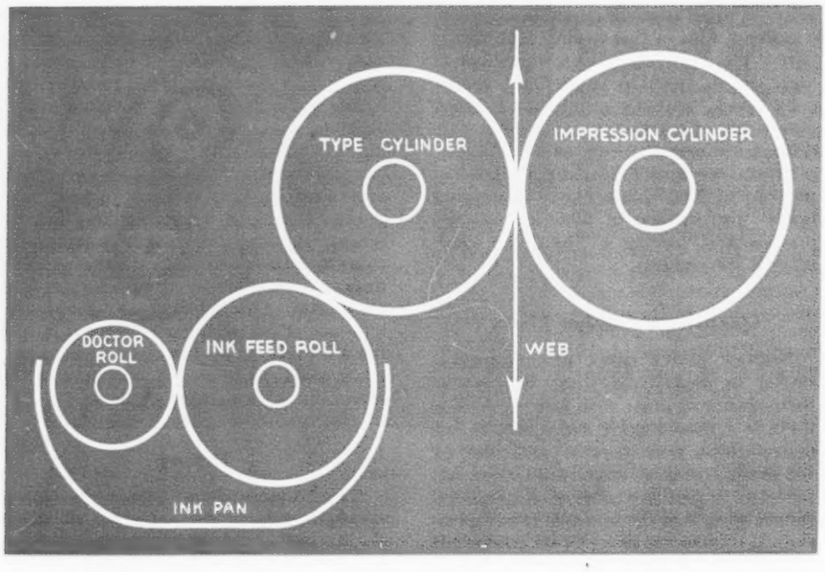



**Fig. 3.—This diagram shows the standard method of ink distribution on an aniline printing press.**

volume of moving air throughout the length of the oven. The best results are often obtained when the hottest air flow strikes the web just prior to its leaving the oven.

### Recirculation Method

If recirculation is desired, exhaust openings are required with adjustable blade arrangements that will permit exhaust of a maximum amount while auxiliary intake openings must be provided to allow fresh air to be introduced to replace the exhausted air. The exhaust feature prevents the recirculated air from becoming saturated with the solvent that otherwise may become a hazard. Therefore, it is important to study the condition of operation and select sufficient heating capacity, the proper blower, and the proper velocity of air. It must be understood that in providing drying means no one case can be used as a formula since all applications are somewhat different.

It is well to mention here the need for adequate drying space between the press and rewinder since its relative importance and function can best be described when coating and lacquering. The web carrying frame unit serves as a means for conveying the web to the rewinder and provides support for holding the drying oven. This unit consists of idler paper guide rollers, dynamically balanced and equally spaced throughout in a parabolic curve, operating in self-aligning bearings with adjustable means for leveling the paper web. The importance of the length or distance of this unit to insure reasonable speed and proper drying conditions is obvious. Very often, where limited space occurs, extreme heat is required to maintain any degree of speed, resulting in brittleness of the paper because of the confined maximum heat necessary, thereby removing all natural moisture from the web and ultimately destroying the aim of the operation. This can be especially true on high coverage printing where speed is important and the sheet is color laden due to the amount of coverage necessary. In lacquering, it is doubly important because lacquers and varnishes are slower to dry and require virtually a curing action. The time element here is an important requisite.

### Auxiliary Equipment

Since we have covered in fairly comprehensive way the aniline process as it is generally practiced in the industry, it would not be a complete story without touching somewhat on the auxiliary equipment which is used in conjunction with aniline printing. Aside from the equipment which is directly a part of this process, namely, rewinders, sheeters, motor drives, there is also equipment which is rapidly becoming a "must", particularly for the large users of aniline presses. These are pre-makeready, registering and mounting machinery and molding presses for rubber plate making.

Converting plants using aniline presses in roll-to-roll printing are customarily furnished with center wind rewinders equipped with slitters for trimming the web. Rewinding mechanisms vary but they are usually of the planetary gear, friction type, or the slip clutch means. Some converters and drive manufacturers have worked out tension control of rewinding with the aid of a variable speed drive, hydraulically operated and directly connected to the rewinding mechanism. The most modern and efficient means is an electronically controlled torque motor directly connected to the rewind arbor. This is a recent improvement in rewinders and is highly efficient. This type of drive consists of two motors —one furnishing power to the press while a separate motor furnishes power control for rewinding. This electric control unit provides creeping adjustable speed to the press motor, yet provides constant torque power for rewinding from zero speed, up and down. Both motors operate in a synchronous manner, providing quick stopping, jogging, controlled acceleration and deceleration of the unit with infinite speed adjustment. This acceleration is fixed by speed of operation, on motors through an operated rheostat so that operator can change speed quickly up or down. A winder generator set supplies power to the winder motor in response to action of a dancer roll, providing constant tension on motor over any built-up range size at any speed. Such electric drive eliminates guess work and waste, thus giving the operator more time to devote to the press.

The surface rewinder which is commonly called a drum rewinder is often used in connection with web-to-web printing. However, its application is limited to certain types of manufacturing. The result of powering means is accomplished similarly to the center wind type except that larger rolls can be rewound. It is utilized by converters who are primarily interested in volume printing where the jumbo roll is subsequently used on another operation before it becomes a finished product or is rewound into counter rolls or sheeted to fit the manufacturer's requirements. Continuous production of printed stock in such volume without a series of shut-downs is primarily the reason for this type of operation.

Unwind stands often are incorporated in the rewinder proper while those separately constructed units are designed to hold double rolls, manually or hydraulically operated for loading paper rolls. Side web adjustments usually operate manually. However, recent tension control devices which operate side adjustment hydraulically have begun to show favor with converters.

### Sheeters

Sheeters are sometimes used in conjunction with aniline printing. But again, they are limited and their use depends upon the manufacturer's particular problem. The widest use of sheeters in conjunction with printing is for cutting off the web in relation to printing. This is accomplished by use of the electric eye and a layboy unit. However, there would not be any particular advantage in operating a sheeter with press operation where a continuous form is being printed since the speed of the press would be limited by: (1) the type of paper to be sheeted; (2) length of sheet to be cut; (3) the general mechanical limitations as applied to sheeters.

### Cylinder Pre-register Equipment

Within the past several years, there has been one outstanding development of exceptional benefit to the paper converter. It is the introduction of pre-makeready and cylinder pre-mounting registering equipment. It is a definite achievement. It is now possible for the platemaker to pre-makeready his plates and accurately position them on an extra type plate cylinder and to take off a proof in any number of colors so that when the job arrives at the press minimum shutdown time is necessary to get

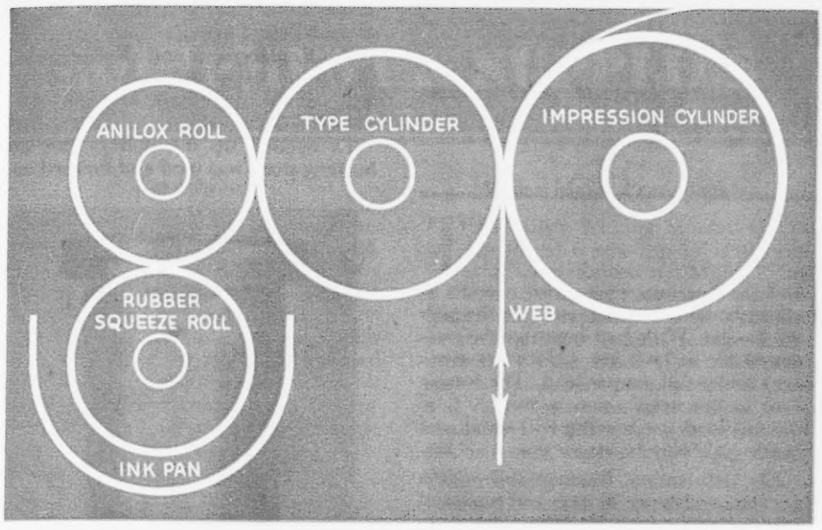



**Fig. 4.—Anilox method of ink distribution consists of a steel roll the surface of which is hobbed to produce a screen or intaglio effect. Control and distribution of ink is governed by rubber covered doctor roller and occasionally a tempered steel doctor blade. Success of Anilox method is dependent entirely upon the type of printing to be done, together with the variation and depth specified in the hobbed roll.**

the production press in motion. Prior to the introduction of this equipment, more time was required to correct plate alignment for proper registration. With increased production, lower operating costs, and better printing it more than pays for the installation of this equipment.

### New Applications and Developments

Each advancing year has brought new ideas and developments to aniline printing. The wheels of industry, chemistry and engineering are turning today as never before.

Manufacturers of converting equipment are now utilizing the aniline printing process in combination with creasing, punching, perforating and die cutting operations where synchronous high speed production once through the press is required.

Within the past year a new development with a hydrophillic resin has shown great possibilities and should prove to be an outstanding contribution to aniline printing. Until recently this material was merely a laboratory curiosity. It has now taken its place in the society of industrial applications. A prominent plate manufacturer[1], in cooperation with a manufacturer[2] of this material, has recently produced a molded, flexible printing plate made from polyvinyl alcohol. It has proved to be stable in test runs where hydrocarbon solvents are present, has excellent abrasive resistance and lends itself to fine type molding. Its introduction to the printing of plastic materials, where hydrocarbon solvents play havoc with rubber, will be of immeasurable value. Since this synthetic material, the trade name of which is Compar, is soluble in water it cannot be used with water or the lower alcohol solvents. But it will pave the way for the use of hydrocarbon inks, coatings and lacquers where high boiling solvents, including the coal tar and petroleum hydrocarbons are required for compounding. While this development is still in its infancy, its potential possibilities in the field of aniline printing promise to become the answer to many problems confronting the industry.

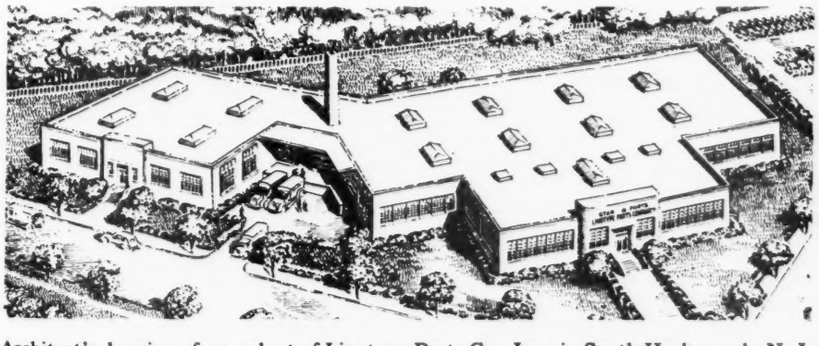
Fountain rollers are now being developed with the same material to assure resistance to these hydrocarbon solvents. Ink manufacturers will soon utilize various new resins which could not previously be used since solubility and compounding required the heavy hydrocarbon solvents as mixing agents. Modification of present drying means would be required for use with this new hydrocarbon development. We can, therefore, look to greater use of less expensive solvents, synthetic oils and resins for ink making.

Experiments with a modified offset method of printing on an aniline press have recently shown considerable promise. Rubber plates, rubber design rollers and metal rollers have been used in this connection along with the recently developed water base inks, which give rise to future possibilities.

*(Concluded)*

[1]Mosstype Corporation, 33 Flatbush Ave., Brooklyn 17, N. Y.

[2]Resistoflex Corporation, Belleville, N. J.



**Architect's drawing of new plant of Linotype Parts Co., Inc., in South Hackensack, N. J. The building is situated on a 3 A. tract and affords 37,000 sq. ft. floor space.**

## Celebrates Twenty-Fifth Anniversary, Does Linotype Parts Company, Inc.

THIS year marks the Silver Anniversary of Linotype Parts Co., Inc., South Hackensack, N. J., one of the largest producers of parts and accessories for line-casting machines. Starting in 1924 in a room 150 ft. sq., in Bronx Boro, New York, N. Y., the company sold chiefly spacebands, liners, and a few other small replacement parts and accessories. Within a year larger quarters became necessary.

In 1927 the company effected a merger with the Kansas City Matrix Co., which then became its Western Division, and distributing point for the Western half of the country. M. Van McKee, former owner of the Kansas City Matrix Co., became Vice President of the merged company and manager of the division. The matrix repair service of the business was disposed of before the merger.

The company, in the meanwhile, found it necessary to move twice to larger quarters in lower Manhattan, and in 1928 merged with the A. & S. Lino-Inter Mfg. Co., Inc., which had been until then one of its manufacturing sources. Frank Swenson, president of the latter company, became secretary of the corporation, and took over the management of its production. Linotype Parts Co. then took over a complete floor at 203 Lafayette St., in New York.

By 1942 the manufacturing and administrative quarters of the firm had expanded to take in four floors. The plant of 20,000 sq. ft. floor space in Weatherly, Pa., was acquired in that year. This plant now serves in a branch manufacturing capacity. In 1946 the company established its main plant and offices in a modern structure built to its specifications at South Hackensack, N. J. The buildings at South Hackensack are on a 3 A. tract and occupy over 37,000 sq. ft.

Another unit is the Cushman Electric Co. of Concord, N. H., manufacturers of the well known typesetting machine

*(Continued on Page 44)*

# Ball Bearing Belt Pulleys

## *for the Junior Autoplate*

By FERDINAND A. MIER*

**Stereotype Supt. The Detroit* Free Press.

FOLLOWING the well - advertised saying "Nothing rolls like a ball", the pulleys described below were designed to use ball bearings to replace the floating bronze bushings on the Junior Autoplate belt pulleys.

The design of these pulleys allows them to be used on the present spindles for the two idlers and for the tightener pulley without change.

Among the advantages of the ball bearing pulley that have been found to date are:

(1) Longer belt life. Belts used to run approx. 160 hrs. (6 wks.) of operation; they now run for approx. 400 hrs. (14 wks.) of operation.

(2) Longer bearing life. We were replacing bronze bushings every 14 months and the bearings were worn enough to allow the belts to climb and ride the pulley flanges. With ball bearings the estimated life is 3500 hrs. (2½ years average) under full torque load. The torque load in this application is only 20% of the full load the bearing will stand and bearing life may be longer than 3500 hrs.

(3) Lubrication. Bearings and pulleys are removed every 90 days and repacked with bearing grease. No further attention is required.

(4) Cleanliness. Due to the fact that oil is not used the machines stay cleaner and operate easier.

(5) Quietness. The ball bearings operate quietly and there is no slap or rattle due to wear. The men operating the machines suffer less nerve fatigue because of the lessened noise.

(6) Replacement cost. Bearing cost is cut more than 80% when increased bearing life and lower original cost is considered.

In making up the pulleys cast iron bushing stock was used and finished on a lathe. Bearing and spacer recesses were bored with the stock on centers. The end and center spacers were cut from steel bar stock and all edges have 1/32 in. radius.

Ball bearings used were No. 1641 Nice double shielded having 1 in. ID; 2 in. OD and being 5/16 in. wide. Any make of bearing meeting this specification may be used.

These pulleys have been in operation for some time and are successful.

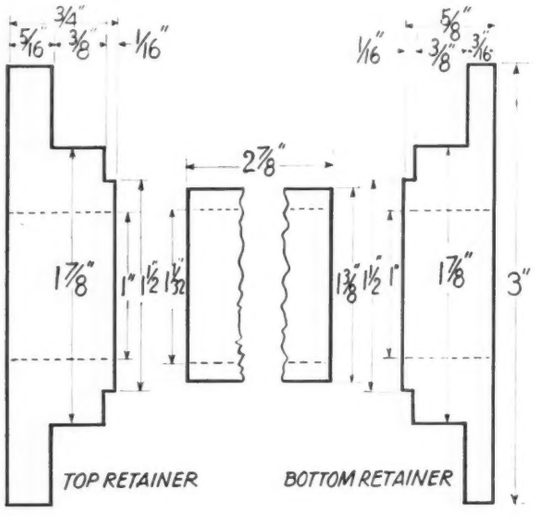



Fig. 1.—Ball retainer and spacer assembly.

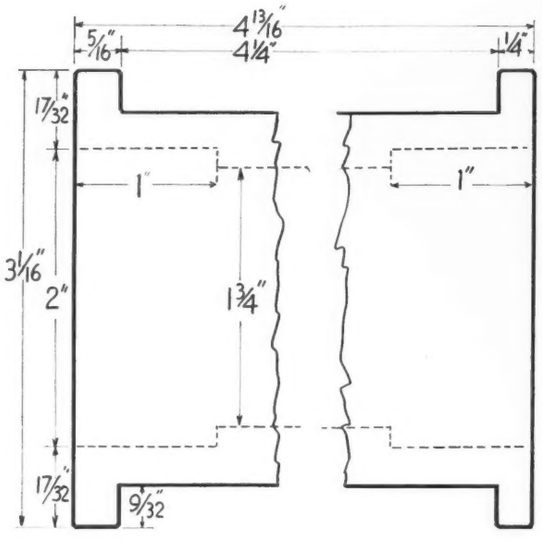



Fig. 2.—Pulley housing.

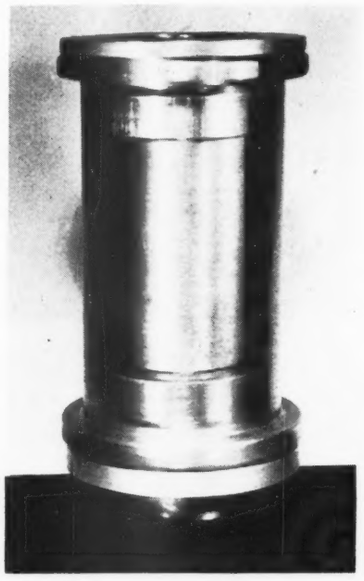


Fig. 3.—Phantom view of spacers and ball bearings when assembly is completed.

**ESTABLISHES CONSULTING SERVICE**—Paul W. Dorst, recently Plant Manager of the Cincinnati Lithographing Co., and former LTF trouble-shooter has established a consulting service for lithographers with offices at 3373 Morrison Ave., Cincinnati 20, O. He is prepared to make audits or surveys of methods in lithographic plants, and to work out or advise on special engineering problems and new developments.

# EQUIPMENT & SUPPLIES

### Correction

IN the article entitled "Star Automatic Quadding Attachment," page 86, December issue of *Printing Equipment Engineer*, the source of supply—Linotype Parts Co., Inc., was omitted inadvertently from the article. The Star Automatic Quadding Attachment discussed in the article is designed for attachment to outstanding line-composing machines. Please address your inquiry to Linotype Parts Co., Inc., South Hackensack, New Jersey.

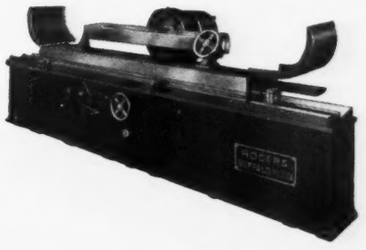
### Miller Major Press Booklet

THE Miller Printing Machinery Co. has issued a new 8 page booklet in which is described the Miller 27 in. by 41 in. SY single color automatic cylinder press. Illustrations of the press are printed in black against a blue background. In the booklet are presented specifications, floor plan, inker diagrams and other pertinent information. It is available by addressing your request to the company, or through *Printing Equipment Engineer*.

**Step-and-RepeatService**—A service for producers and users of any kind of multiple - image printing plates (photoengraving, offset and gravure), has recently been announced by Midwest Step-and-Repeat Service. This service is used in the making of plates for labels, small cartons, book matches, wrappers, stamps, seals, closures and many other items which are generally printed in multiple-image runs. The same or varied subjects may be duplicated on photographic film as often as desired. Either positive or negative films are produced depending on printing process requirements. This picture shows the original art work and below it the finished step-and-repeat film. An additional film for each color plate is made in the same manner. Additional information may be obtained by addressing your request to Midwest Step-and-Repeat Service in care of ***Printing Equipment Engineer.***

### Hydraulic Knife Grinder

SAMUEL C. ROGERS & CO. recently announced a new development in knife grinding machinery—hydraulic drive permitting variable table speeds from 10 to 70 ft. per min. Manufacturer states that a high work speed, giving a rough finish, can be hydraulically reduced accurately and automatically, without stopping the machine, to a lower work speed giving a high finish. Self-aligning 5 in. V-ways on the cabinet



**Roger Hydraulic NT Knife Grinder which provides variable table speeds from 10 to 70 ft. per min.**

base and carriage help to absorb grinding pressure and permit heavy cuts and fast feeds with a minimum of vibration. Automatic motor-driven oiling system. Separate 2 h.p. motor controls hydraulic system and 16 in. segmental grinding wheel is operated from 7½ h.p. or 10 h.p. motor as desired. Use of this segmental wheel is claimed by the manufacturer to assure savings of as much as one-third in segmental first cost over solid cup or cylinder wheels. Seven sizes of the Hydraulic NT Grinder are available: 38 in., 48 in., 78 in., 90 in., 102 in., 110 in. and 134 in. Additional information may be obtained by addressing your request to Samuel C. Rogers & Co., in care of *Printing Equipment Engineer*.

Production and mechanical executives will be grateful to you if you will send to the editor of *Printing Equipment Engineer* descriptions of devices you have adopted to help production. Just write informally.

### Additional Linotype Faces

TIMES Roman with italic and small caps has recently been cut by Mergenthaler Linotype Co. in 12 pt. This face was already available in 5½, 7, 8, 9, 10, and 11 pt. sizes. In addition, 9 pt. Spartan Medium with Heavy and 12 pt. Corona with Erbar Bold was announced as being available. Examples of each of the new sizes are as follows:

12 Point Linotype Times Roman with Italic & S. C.

LINOTYPE abcdefghijklm 23
*LINOTYPE abcdefghijklm* BC

9 Point Linotype Spartan Medium with Heavy

LINOTYPE abcdefghijklmnopqrstuvw 23
**LINOTYPE abcdefghijklmnopqrstuvw 23**

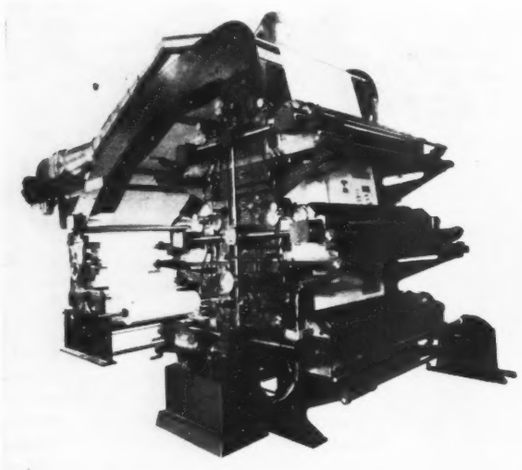
12 Point Linotype Corona with Erbar Bold

LINOTYPE abcdefghijklm 23
**LINOTYPE abcdefghijklm 23**

**I. S. Jogger Models**—Ilya Scheinker has announced a 17 in. by 22 in. Model Jogger and the Press Delivery Jogger. The 17 in. by 22 in. jogger is a smaller edition of the standard model made for use by printers and binders, and is operated as an independent unit, as shown in the illustration at the left. The Press Delivery Type I. S. Jogger is made to order to fit the delivery of the individual press. It is rolled up to the delivery end of the press and replaces the standard jogger board platform. It receives and jogs the printed sheets directly from the press. Manufacturer claims it is especially designed for tissue, onion skin and other light weight paper. Further information may be obtained by addressing your request to Ilya Scheinker, in care of *Printing Equipment Engineer*.

### Print-Master Aniliner

THE Kidder Press Co., Inc. has announced a aniline press which is available in four or six color frames. Metered ink fountains, manufacturer states, are one of the features of the press which are used to insure a constant ink flow at all speeds. Fountain rollers are kept running when the press stops by the drive arrangement. The drying system partially dries each color as it is printed and then completely dries, seals, remoistens and cools the printed web after all colors have been applied. The ink fountains are driven independently of the plate cylinders by a way shaft and gear box system using hardened gears, running in oil. Bearings are anti-friction type throughout. The Print-Master Aniliner comes in 42 in., 52 in. and 65 in. widths. Further information can be obtained by writing Kidder Press Co., Inc., in care of *Printing Equipment Engineer*.



View of Kidder Print-Master Anilines Printing Press. Made in 4 to 6 color frames, and in 42 in., 52 in. and 65 in. widths.

### Direct-Image Fototype Plates

FOTOTYPE, Inc. has announced what it is pleased to term a Direct-Image Fototype Offset Plate. While it is announced as suitable for use on paper plates, yet it can be used in connection with aluminum or zinc plates which serve as the carrier for use on small offset duplicators without photographic and associated operations. The direct-image plate was invented by Donald F. Buckingham of Fototype-Chicago.

The plate is made or pasted up directly on the paper plate. The job is printed direct from the "pasted-up" plate. The printing images may consist of Fototype display letters in larger sizes, typewritten body copy and stock or custom-made art work.

The various sections of the paper copy —display, typewritten matter and illustrations—are fastened directly to the plate by means of double-coated Scotch tape. Then the edges of the various pieces of paper making up the printing image are sealed off with a special sealer to prevent moisture from the damping mechanism entering between the sections on the plate.

The body type matter is composed preferably on an electric typewriter on a chemically coated paper. This paper is water receptive except where the printing image is applied. The printing image, of course, is water repellant but grease or ink receptive. For the display type lines or headings, Fototype letters printed on the same chemically coated paper are aligned in a special stick, and are also fastened in position on the plate with the double-coated Scotch tape.

The body type matter is then fastened to the carrier plate with double-coated Scotch tape in exact printing position. Illustrative material, consisting of stock illustrations or specially drawn subjects likewise is fastened to the plate with double-coated Scotch tape.

After the printing images have been affixed to the plate with double-coated Scotch tape, a special sealer is used to eliminate the edges of the various pieces making up the plate. The plate is now ready to be mounted on the press.

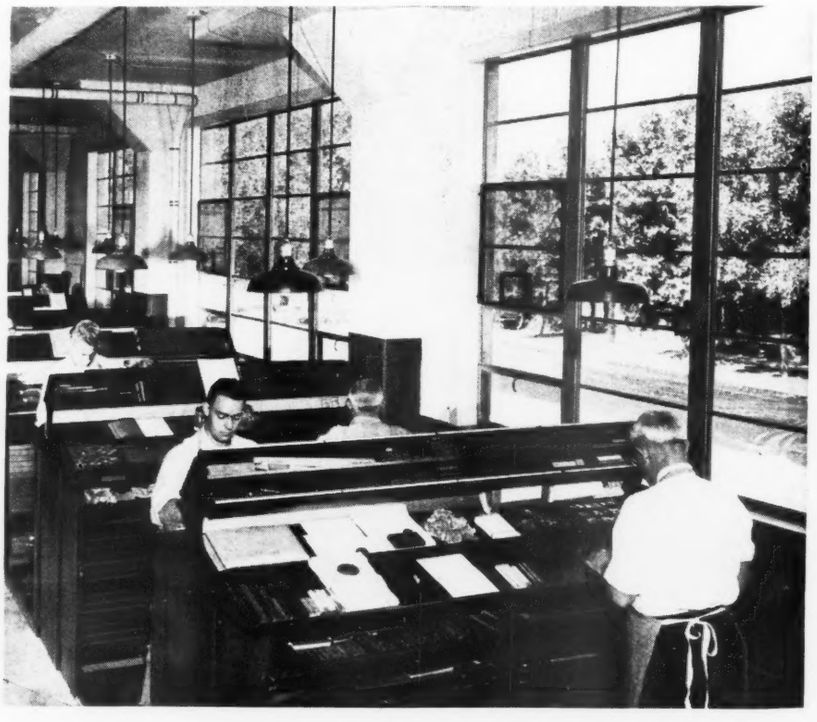
Sponsor states that for long runs any number of "preprints" may be made from the original "pasteup." It is claimed that press runs as high as 5000 have been made from the original paste-up without appreciable deterioration.

Fototype, Inc., has also announced that special fonts of its display letters are available for use with the Direct-Image plate. These differ from the regular Fototype letters which are used with the photographic offset platemaking process. The new Fototype letters for use with the Direct-Image plate are grease (ink) receptive while the paper upon which they are printed are water-receptive.

### Vandercook Proof Presses via ATF

Four more Vandercook proof presses have been added to the line of presses handled by ATF Sales Corp. according to a joint announcement by Vandercook & Sons, Inc. and ATF. These, added to the eight already being handled by ATF, make a total of 12 sold by the company. The four models are the No. 320G, the No. 4, the No. 4T, and the 25-24T test press. Details may be had on any of the above presses by writing the American Type Founders Sales Corp. direct or any of the firm's sales offices.

(*Continued on Page 48*)



**Thermopane Used in Composing Room** —Daylight for work is provided in the composing room of Sheperd's Citations, legal publishing house at Colorado Springs, Colo. The building is surrounded by glass to allow plenty of light for all departments. By using Thermopane, manufactured by Libbey-Owens-Ford Glass Co., the building is sealed against outside elements. This insulating glass is used to insure even temperatures in hot and cold days alike in conjunction with air conditioning, and to minimize noise and dust.

# Great Lakes Mechanical Conference

**Newspaper Production Management and Fabrication Methods Discussed Profitably—Personnel Session Valuable—Photoengraving Techniques Taking Definite Form.**

**By STAFF WRITERS**

THE fourth annual session of the Great Lakes Newspaper Mechanical Conference was successful from the standpoint of production and mechanical executives learning about preferred techniques for producing that better printed newspaper. About 325 executives and manufacturer and supplier representatives attended. The conference was held at Hotel Gibson, Cincinnati on January 16, 17 and 18.

In particular, and without detracting from the value of all sessions, the personnel, photoengraving, machinist and mailroom discussions were highly profitable.

President Charles M. Kirk and Program Chairman Leon A. Link together with officers and directors have been complimented upon the extremely helpful program.

AT the conference opening session, Monday morning, January 17, President Charles M. Kirk, Stereotype Supt., Detroit *News*, introduced Pearl E. Oldt, Executive Secretary of the Intl. Association of Printing House Craftsmen whose permanent offices are in Cincinnati. Mr. Oldt extended greetings from Craftsmen. He spoke of the aims and objectives of the Association in the commercial branch of the printing industry, which comparatively is similar to the work engaged in by newspaper production and mechanical executives.

President Kirk then announced that Charles J. Hentschell, Production Manager of the St. Louis *Post-Dispatch*, was unable to be present. On the program he was scheduled to speak on *The St. Louis Post-Dispatch's New Plant.* Instead, Kirk introduced Alex T. Primm, Asst. Production Manager, who spoke upon the subject. It was a highly interesting address. Abstracts of some of the important information given by the speaker are contained in boxes on several pages of this issue.

### Xerography

Dr. R. M. Schaffert, Supervisor, Graphic Arts Div., Battelle Memorial Institute, Columbus, was the next speaker. His was a combination address, sound movie and demonstration of the Xerographic process of line image reproduction. His appearance upon the platform was well received by the production and mechanical executives. "It's magic," said one prominent executive after conclusion of Dr. Schaffert's address. (For full description of the Xerographic process see Nov. 1948 issue of *Printing Equipment Engineer.*

## *Personnel*

THE first Personnel Session to have been held at any Great Lakes Newspaper Mechanical Conference took place on the morning of January 17. Chairman Leon A. Link, Production Manager of the Cleveland *Plain Dealer*, carried out his duties as mentor over the proceedings in a capable manner.

Chairman Link sounded the purpose of the Personnel Session when he stated it was not the intention of the meeting to attempt to tell Management nor the Unions what should be done, but it is recognized that executives present accept conditions as they exist so far as union contracts are concerned. In discussing personnel relations in mechanical department supervision, the chairman stated no attempt would be made to "take over" the union's business nor its prerogatives.

"The foreman," said he, "is subject to the rules and laws of the union; he is also responsible to newspaper management because he is management's representative. Between these two major elements he often finds himself in the middle."

He asserted the foreman wants to be fair with everyone concerned. He mentioned that many personnel problems, however, are not connected with union regulations, but are the result of individual incidents which may arise.

### Production Data

The first topic was whether man hour production is better or not so good now as it was in 1940. W. F. Alexander, Photoengraving Supt. at the Cleveland *Press* claimed that the photoengraving industry gets considerably more production now due mainly to improved film, processing methods and equipment. The

## MILL SPLICES, TOWELS AND GRASSHOPPER

(Abstracted from address by Alex T. Primm, now Production Manager, St. Louis *Post-Dispatch* before Great Lakes Newspaper Mechanical Conference, Cincinnati, January 17, 1949.)

**THE pressroom in 1948 made a fine showing in production over 1947, despite a 20% increase in tonnage being put through the presses. We now run five collect presses instead of the eight we ran in the old building, and four straight presses instead of five. We could cut back to three straight presses but our screwy breakups such as 18-6-6 won't permit. And as most of you know the spot market tonnage that was available in 1948 was composed of a lot of cats and dogs. We have had newsprint from Europe in which mill splices were not made; in which mill trim and shop towels have been found (after breaking the web), and in some—believe it or not—we found grasshoppers, which is sort of adding insult to injury.**

composing room has less production today on the Youngstown (O.) *Vindicator*, according to Composing Room Supt. W. R. Coddington, while man-hour production in the stereotype department and the pressroom has increased over the 8 year period.

Executives were told by Charles M. Wolf, Mechanical Supt., Pittsburgh *Press*, his newspaper has increased production since 1940. He attributed this to several factors. Engravings today are routed and prepared better. Modern equipment has been installed which is far superior to that used in 1940; there is closer cooperation between management and labor, better management of work flow, and management has eliminated wasteful practices.

Composing room production is the same today as it was in 1940 at the Detroit *News* according to H. L. Higgins, Composing Room Supt. He related that some think production of composition has gone down since 1940. He attributed this to the fact that ads are more difficult to set today, but said printers are as capable today as they were eight years ago.

### Discusses Personnel Duties

Chairman Link called upon William Forrester to discuss his principal duties as Personnel Director of the Pittsburgh *Press*. The latter told the audience how he assists in negotiation of labor contracts and sits in on meetings in an attempt to settle grievances. He emphasized that the personnel director should not usurp the duties of the foremen in any way. The personnel director must keep abreast of labor, wage, and women and child laws, continued Forrester, and direct insurance, hospital and veteran programs. These programs are encompassed by much paper work and red tape which he must also handle. Personnel, he concluded, is a staff rather than a line job.

### Young Men in Industry

The question of whether younger men in the newspaper industry are qualifying themselves for higher positions was taken up by the conferees. James F. Braddock, Windsor (Ont.) *Daily Star*, said that young men taken on by his paper in the past 3 and 4 years are anxious to learn and listen to suggestions.

A great improvement in quality of young men coming into the newspaper trade, was noted by Curtis White of the Indianapolis *Star*, due to the attitude of executives, foremen and other men in advisory capacities.

Some executives said that management doesn't want younger men to learn too much, whereas the boys themselves are anxious to be upgraded. He advocated an organized plan to prepare these boys for executive responsibilities in the future. Ernest Scherer, Photoengraving Supt., the Detroit *News*, remarked that some 35 to 40 year old men in his depart-

## Mechanical Executives Confer at Fourth Annual Great Lakes Newspaper Mechanical Conference. A few who helped swell the attendance are pictured in left to right order.

**1.**—Auburn Taylor, Pressroom Supt., Charleston (W.Va.) *Gazette;* Otto Kuerle, Superintendent, Moline (Ill.) *Dispatch.*

**2.**—Harold G. Johnson, Machinist, *Ohio State Journal,* Columbus, O.; S. K. Trunnell, Composing Room Supt., Roanoke (Va.) *Times-World, Inc.;* John Peecook, Chief Machinist, Cleveland *News.*

**3.**—David Kittler, Stereotype Supt., Cincinnati *Post;* George Fuller, Stereotype Supt., and Roy E. Seitz, Mailroom Supt., Cleveland *Press.*

**4.**—D. J. Snyder, Pressroom Supt., and Earl Currise, Photoengraving Supt., South Bend (Ind.) *Tribune;* Ernest Scherer, Photoengraving Supt., Detroit *News.*

**5.**—Frank Otstot, Stereotype Supt., Larned Snow, Machinist, and Carl Snow, Composing Room Supt., all of Springfield (O.) *News-Sun.*

**6.**—John J. McCarthy, Mailroom Supt., and Clyde Schreikel, Cincinnati *Post;* J. F. Walker, Mailroom Supt., Cincinnati *Enquirer;* Harry Hugo, Mailroom Supt., Cincinnati *Times-Star;* Oscar Gneuhs, Mailroom Supt., Cleveland *News.*

**7.**—C. L. Buttermore, Mechanical Supt., Cleveland *News;* I. Tornberg, Vice President, Wood Newspaper Machinery Corp.; Charles M. Wolfe, Mechanical Supt., Pittsburgh *Press.*

**8.**—Pearl E. Oldt, Executive Secretary, Intl. Assoc. of Printing House Craftsmen, Cincinnati extended greetings to Great Lakes Newspaper Mechanical Conference; Alex T. Primm, Asst. Production Mgr., St. Louis *Post-Dispatch;* Charles M. Kirk, Stereotype Supt., Detroit *News* and retiring president of Great Lakes Conference; Dr. R. M. Schaffert, Supervisor, Graphic Arts Div., Battelle Memorial Institute.

**9.**—Sidney Weiskittel, Pressroom Supt., Edward Griesmeyer, Composing Room Supt., J. F. Walker, Mailroom Supt., Leo Moorman, Stereotype Supt., James Campoli, Night Mechanical Supt., and Harry Rindsberg, Production Manager, all of Cincinnati *Enquirer.*

**10.**—Robert M. O'Connor, Mechanical Supt., Warren (O.) *Tribune-Chronicle;* Harvey Fishel, Representative, Lanston Monotype Machine Co.; A. O. Albin, Director of Research, Mergenthaler Linotype Co.; Edward H. Owen, Asst. to the Editor, *Printing Equipment Engineer.*

**11.**—Craig C. Baker, President, Sta-Hi Corporation, Los Angeles, Calif.

**12.**—Frank Dassori, Pressroom Supt., Detroit *Times;* Vernon Spitaleri, Acting Mgr., ANPA Mechanical Dept.; J. J. Riley, Mechanical Supt., Detroit *Times;* L. J. Griner, Production Mgr., Detroit *News.*

**13.**—Earl Weiskittel, Pressroom Supt., Youngstown (O.) *Vindicator;* Charles Lawrence, Linotype Parts Co.; Ernest Van Roden, Ohio Representative, The Wright Co., Inc.

**14.**—Ozzie DeWitt, Douthitt Corporation; Cecil Watkins, Mechanical Supt., Sidney (O.) *Daily News;* Wm. E. Zumbro, Pressroom Supt., Fort Wayne (Ind.) *News-Sentinel;* Milo Bildner, Pressroom Supt., Kalamazoo (Mich.) *Gazette.*

**15.**—George C. Feldt, Mailroom Supt., Milwaukee *Journal;* Deo A. Padgett, Composing Room Supt., Cleveland *Plain Dealer;* Joe E. McMillen, Pressroom Supt., Milwaukee *Journal;* I. J. (Ike) Chalifoux, Chief Machinist, Cleveland *Plain Dealer.*

**16.**—H. W. Blomquist, Sales Engineer, Wood Newspaper Machinery Corp.; L. O. (Curley) Wakefield, Mechanical Supt., Akron (O.) *Beacon-Journal;* Earl Lacure, Field Engineer, Duplex Div., Goss Printing Press Co.

**17.**—Howard Moad, Intertype Representative; Amos Hoffman, Asst. to Vice President A. T. Mann, Intertype Corporation; Charles Stanger, Composing Room Supt., Fort Wayne (Ind.) *News-Sentinel.*

**18.**—George McElroy, Sales Representative, William C. Roddy, Manager, Dean W. Looman, Sales Representative and Walter Moser, Sales Representative, all of Metals Refining Div., The Glidden Co.

**19.**—Cliff Entler, Chief Machinist, and S. J. Scott, Composing Room Supt., Decatur *Herald-Review;* Joseph Kaercher, Representative, Mergenthaler Linotype Co.

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**Newly Elected Officers and Directors of Great Lakes Newspaper Mechanical Conference** — Seated, left to right: Director Henry M. Arbogast, Photoengraving Supt., Milwaukee *Journal;* Vice President, Horace H. Parker, Stereo-Press Supt., Richmond (Ind.) *Palladium-Item;* President, William R. Coddington, Composing Room Supt., Youngstown (O.) *Vindicator;* Secretary-Treasurer, Al. P. Oberg, Flint (Mich.) *Journal;* Immediate Past President, Charles M. Kirk, Stereotype Supt., Detroit *News*. Standing, left to right: Vice President, Roy E. Seitz, Mailing Room Supt., Cleveland *Press;* Director, LeRoy Coates, Pressroom Supt., Grand Rapids (Mich.) *Press;* Director, A. W. Barrow, Stereotype Supt., Indianapolis *Times;* Vice President, Edgar McCarthy, Stereotype Supt., Milwaukee *News Sentinel.* Also elected but not present at the time the above picture was taken are Vice President, Lee L. Doll, Mechanical Supt., Indianapolis *Star* and *News;* Vice President, Ernest Scherer, Photoengraving Supt., Detroit *News;* Director, Ed. Griesmeyer, Composing Room Supt., Cincinnati *Enquirer*.

ment have the capabilities to step into higher jobs if they were properly trained.

### High Costs of Production

Chairman Link asked the members if they or their newspapers had made any effort to acquaint their employees with facts pertaining to the increase in cost of producing newspapers. G. H. Fuller, Stereotype Supt., Cleveland *Press*, inquired whether any executives had conferred with management to prepare a comparison of costs between today and a few years ago in order to give personnel a clear, concise picture of what management is up against. By a raise of hands, it was found that more lack information from the publishers which the members deemed necessary to talk factually and sensibly to rank and file employees.

Alex. T. Primm, Asst. Production Manager, St. Louis *Post-Dispatch*, told the mechanical executives that measures are being taken by his organization to reduce overtime costs. These high costs are explained to the foremen, who in turn talk to the employees. Frequent meetings of management, supervisors and chapel chairman are held in attempts to get the operation back into line. Teamwork and close cooperation is the answer, according to Roy Busch, Stereotype Supt., Ashtabula (O.) *Star Beacon*.

An interesting incident was related by Edward M. Happer, Mailing Room Supt. at the Cleveland *Plain Dealer*. An opening for an assistant foreman came up on his newspaper and several younger men were approached in an endeavor to get them to accept the position. He found no one cared for the job because of the low pay, because some journeymen with overtime pay are making higher wages than those in supervisory capacities. He recommended that wages for such persons be increased in order to attract likely young men for supervisory positions in the future. Wolf asserted that the mechanical executive is the forgotten man.

### Private Lives of Employees

The matter of a foreman taking interest in the private lives of his employees was taken up. Deo Padgett said he will listen to any employee upon request, about matters that are personal. If people are happy and contented, he claimed, their productivity will be normal. Some resent interference in private affairs, according to H. L. Higgins, but interest should be extended, he said, if the individual seeks advice from the foreman. W. F. Alexander said a capable foreman should be able to tell when something is bothering a worker and endeavor to help him.

Have you made a good boy out of a bad actor? This question was put before the audience at the Personnel Session and Roy E. Seitz, Mail Room Supt., Cleveland *Press*, responded with the advice that if you handle a bad boy carefully and gradually give him responsibility he will straighten out by himself.

### Insufficient Number of People in Training

The Great Lakes Conference members were asked if there was a sufficient number of people in training on their newspapers to replace those who may retire or die. Chairman Link remarked that at the Cleveland *Plain Dealer* in one department, 48 employees were lost in an 8 year period and only 8 boys had been trained to replace them. Forrester said the Pittsburgh papers had to request the union for three extra apprentices on a one-time basis to relieve the serious shortage. It was generally agreed by members there are not enough people in plants today to accomplish such a replacement system.

The mechanical executives were asked if a foreman should take part in contract negotiations as a representative of the publisher. John Roberts, Stereotype Supt., on the Cleveland *Shopping News* was opposed to this because he claimed that in many instances bitterness arises after a contract is formulated. The foreman should not incline toward labor or management in order to get along with both factions. Earl Weiskittel, Pressroom Supt., Youngstown (O.) *Vindicator*, took the affirmative to this argument with exception to the discussion concerning wages. Most members agreed that operation could be improved if union contracts were better understood. They requested contracts in simple, everyday language so that the meanings could be interpreted without confusion. Roberts maintained there always is liability of confusion in the interpretation of contracts because, before a contract is signed, lawyers are called in to couch terms in legal wording.

### Suggestion Plan is Helpful

Alex T. Primm, St. Louis *Post-Dispatch*, replied to the question asked by Chairman Link of whether your newspaper encourages suggestions from employees and if their suggestions are helpful. He told of a formal suggestion system installed at the *Post-Dispatch* which has had good results to date. Pressroom Supt. J. E. McMullen of the Milwaukee *Journal* said the *Journal* has a similar suggestion plan.

## *Non-Metropolitan*

PRESIDING over the Non-Metropolitan Session of the Conference was Chairman Frank Marengo, Mechanical Supt. of the Port Huron (Mich.) *Times-Herald*, and Co-Chairman Cecil Watkins, Mechanical Supt. of the Sidney (O.) *Daily News*. Chairman Marengo introduced the first speaker on the opening program as Carl Borckardt of Certified Dry Mat Co., who chose as his subject *Mechanical Operation of a Small Daily Newspaper*.

Borckardt related various experiences in shops and newspapers that he has visited and told of some of the difficulties he has uncovered.

In another shop, the Teletypesetters were so poorly operated that much of the tape had to be run through the machine again to correct mistakes in the first setting. He advocated that "cheap insurance for good production" is a full-time machinist.

In some stereotype departments plates are routed to obtain clean printing. This,

In one shop a pink slip is attached to all stereotype job mats. Instructions to the stereotyper are written on the slip. One day he was in this shop in the morning and looked over the mats to which pink information slips had been attached. He noticed one pink slip upon which the stereotyper had written: "This mat unfit for making a plate." During the afternoon of the same day he had occasion to return to the stereotype department of the same shop. He saw the same mat which the stereotyper had rejected as unfit for plate-casting. But attached to it was another pink slip with the notation: "Do the best you can."

he continued, necessitates keeping router bits sharpened at all times. Where halftones are used on stereo bases, best results are obtained when they are underlaied 0.006 in. above type high.

He noted a decrease in using color in newspaper advertising in the past year and a half. This, Borckardt stated, is due to the fact that some newspapers run two ads of the same color on facing pages. One detracts from the other. In conclusion, he stated each mat in a set of color mats should be left in the scorcher the same length of time and also timed alike when cooling the plates in the casting box.

### Tolerances in Printing

Earl P. Lacure of the Goss Printing Press Co. was the next speaker and opened his remarks by relating how machinery parts today are made from 0.001 in. to 0.003 in. accuracy. The industry is getting better printing today from the plates which are 90 per cent responsible for the better printing results. Some newspapers have no flat shaver.

Plates must be uniform for good printing. Imperfect plates ruin the press blankets. In striving for precision, Lacure stated printers "have not gone the limit yet because of their own carelessness." Precision work should start in the composing room and follow on through the shop. Many times the pressroom is blamed for a poor printing job that perhaps is the fault of a poor plate to begin with. The reader's eye always goes to a small 1 in. ad which does not print because it has gone through too many moldings without resetting.

He recommended a 0.028 in. mat for use on tubular equipment. All plates should be micrometered for thickness. Halftones should be thicker by 0.004 in. or 0.005 in. than the type areas. The amount of material between the cuts, and the base, determines the thickness of the plate in the cut area.

He told how some newspapers have no humidifying boxes for keeping constant moisture in the mat. A dried-out mat will cause poor printing. Small papers are being equipped fast with the latest type of equipment. In conclusion, Lacure asked the members to "be more conscious in your work and try at all times to make a precise plate."

### The Rolup Process

A talk was delivered by Earl Currise, Photoengraving Supt., South Bend (Ind.) *Tribune*, on the Rolup Process. He explained that he works with a 75 line screen. The negative, he said, is made like a copper fine screen negative. First a 0.0015 in. bite is taken in the metal. The scale is brushed off with the aid of a small etching brush. A plate heated by three electric strip heaters controlled by a thermostat, is used, measuring ½ in. thick and 24 in. by 24 in. for the ink application. The plate is inked with a roller until covered evenly. When taking the second bite, care must be taken not to etch too deep. A bite of from 0.0025 in. to 0.003 in. was recommended.

"Now we are ready to re-etch," said he. "If all of the highlights are of the same size, we put the plate back in the machine and give it 5 or 6 sec. more to remove the shoulders in order to obtain a pyramid highlight dot, together with clean shadows and middletones."

At the conclusion of his talk, a "temperature quiz" ensued between Currise and L. J. Griner, Production Manager, Detroit *News*. The quiz went something like this:

(Griner) "How hot did you say the heated plate should be, Mr. Currise?"

(Currise) "It should not be hot enough to buckle the plate."

(Griner) "What temperature would that be, though?"

(Currise) "If the plate becomes too warm, the ink vehicle (oil) separates out from the pigment and prevents opening up the bottom of the plate."

(Griner) "Yes, I understand that, but what is the actual temperature?"

(Currise) "Well-l, just warm enough to be comfortable to your hand when it is laid on the heated plate."

### New Plant Problems

*Problems in Building and Equipping a New Non-Metropolitan Newspaper Plant* were discussed by Ralph Disler, General Manager, Mansfield (O.) *Journal*. The speaker related to the audience how his paper is building a new plant. He described the paper and said his firm is planning now for the future.

He asked whether it was worth the added expense to leave columns out of the composing room. Most of the executives were in favor of leaving them out even if it is not worth it at the present time. Many have had trouble when they came to revamping plants for new equipment.

Whether acoustical treatment was necessary or profitable was another inquiry by Disler. The Conference told him quiet operation in the composing room contributed to better work and greater concentration. One executive said acoustical treatment on the ceiling alone cuts down noise 75%.

Another question was; *Does it pay to print color?* This was answered by a member who stated there was more profit in black and white. Large papers have boosted the minimum rate on color printing because it has been found to be unprofitable. The profit derived from color printing has not paid for the equipment used.

Disler wanted to know if the *Journal* should stick with mat roller or direct pressure. Direct pressure was favored.

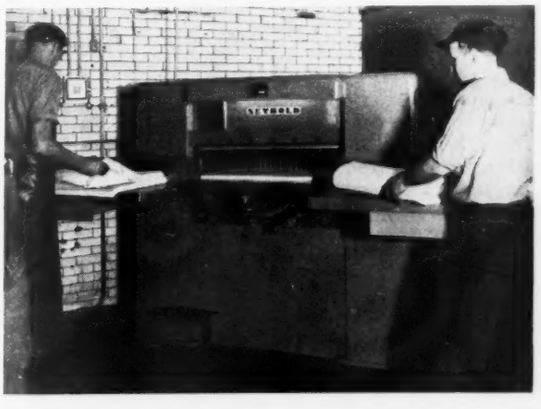
### Full-Time Machinist

The question and answer period was proctored by Co-Chairman Watkins who asked the Conference members how many line-casting machines a non-metropolitan composing room should operate before employing a full-time machinist. It was the consensus of opinion that plants having six or more machines

### Where We Are— How We're Headed

(By Edward G. Williams, President, American Type Founders Sales Corp.)

**THE present high peak reached by Graphic Arts costs and prices, from which we cannot now conceive any possible recession in the foreseeable future, makes more imperative the demand for the intelligent integration that alone can result in a smooth-working printing plant completely adjusted to its logical and profitable markets. It is in such a direction that this company's (ATF) future activities will more certainly be aimed.**



**School Receives Seybold Paper Cutter**—The Chicago Lithographic Institute recently installed a Seybold Model 36 in. Auto-Clamp Paper Cutter. The cutter was presented to the school by Harris - Seybold Co. Working at the machine are (left to right) Frank Oehme, a member of the Institute staff, and Gunnar Haglund, Harris-Seybold erector.

need a machinist. One executive stated that in such plants, the machinist could perform other duties when not engaged in machine maintenance.

One mechanical executive asked that plastic plates be standardized in thickness. Variations from 0.010 in. to 0.015 in. have been encountered which require special care in building the plate up to proper form height. Best results have been obtained on plastic plates when they have been built 0.002 in. above type high. They should not be leveled under 0.918 in. or over 0.921 in. Another member told how plastic plates vary in thickness on the corners. In some plates, he said, variations of 0.004 in. to 0.009 in. under or over standard thickness have been found.

### Teletypesetter Operation

The Conference was queried as to the reduction or increase in errors with Teletypesetter operation. One member related how his newspaper encountered trouble in teaching operators. He emphasized that it was not an easy operation and that a plant installing the machines would need a machinist to take care of the machines. He pointed out that magazines get very hot in this operation and require careful maintenance attention. Another executive said the Teletypesetter is the coming thing. One machinist in his plant can care for three machines. Another executive related how his plant offers a bonus for clean proofs to operators in an effort to reduce errors.

## *Machinists*

AT the Machinists' Meeting, I. J. Chalifoux, Chief Composing Room Machinist of the Cleveland *Plain Dealer*, presided. He was assisted by Herbert Lind, Field Machinist, of Mergenthaler Linotype Co.

The first speaker was A. O. Albin, Director of Research, Mergenthaler Linotype Co. Mr. Albin's subject was *Linotype Development*. He explained that the Department of Product Research and Development, employs at the present time 45 men.

### Linotype Improvements

Among recent improvements is a micro-therm electric pot relay with an on-and-off power switch in the box and also two neon indicating lamps. The lamps indicate when the circuits are open and closed for both the crucible and the mouthpiece. Crucible relay box is attached to the side of the mold gear arm. Through use of the relay the current passing through the crucible mu switch has been reduced almost a hundred times. The mu switch now simply serves to energize the relay coil. The actual electrical heater load is taken by the relay contacts.

The assembling elevator has been redesigned so the front and back plates will maintain better alignment. A key in the front plate fits into a horizontal keyway in the back plate to insure proper horizontal relationship between front and back assembling elevator plates.

A new assembler star wheel friction is adjustable from the front of the machine. The end of the stud has been provided with a square head. The stud is prevented from turning by the star wheel in such a way that there is no possibility of the friction changing during machine operation.

Other improvements mentioned by Mr. Albin include a new automatic device for setting ejector blades. A new two-speed assembler for Super-Display machines is of simplified construction.

### Improved Gas Pot

A redesigned and improved gas metal pot has been developed. Larger passages to permit cumbustion products from the main gas burner flame to pass through and up the crucible into the chimney have been provided. A new method of packing has been provided. Interference between the mouthpiece burner flame and the throat burner flame has been eliminated. Standardized holes in the packing between the crucible and the pot jacket to make sure of securing the most efficient flame have been provided. The burner piping and the orifices and the burner have been changed. The new orifices are adjustable for any type of gas. An automatic mouthpiece micro-therm gas control to go with the crucible control has been provided. The expansion bulb for the automatic mouthpiece control has been placed in the front edge of the crucible near the mouthpiece. The mouthpiece burner has been tied in with the throat burners and both are controlled by the mouthpiece control.

## 25th Anniversary

(Continued from Page 35)

motor. This company was acquired in 1943, and within the past two years has also been moved into larger quarters.

According to I. Bendow, President of the company from its inception, the firm's policy has been to place emphasis on precision and quality workmanship, as well as the rapid service required by an industry which is keyed to speedy production.

The growth of the company is shown by a comparison of its first catalog of parts in 1925, which consisted of two 5 in. by 7 in. printed pates, to the loose-leaf indexed catalog of 111 pages, each 9½ in. by 11 in. contained in leatherette binder. It is available to all Linotype and Intertype machine owners. In addition to its Western Division at Kansas City, the company has agencies which carry stocks in New York, Chicago, Minneapolis and Denver.

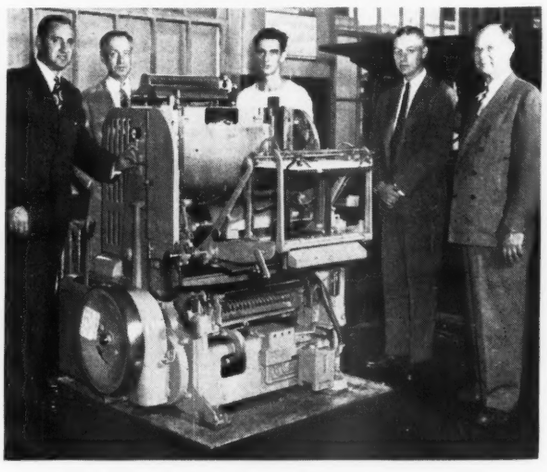
Latest equipment of interest to the trade is the recently introduced Star Automatic Quadding Attachment. This equipment is ready for application to existing Linotype and Intertype machines. It sets all white space composition in right flush, left flush, and centering operations.

## Magee Brothers Co., Inc. Miehle Vertical No. 15,000

IN September, 1948, an out of the ordinary event occurred in the plant of Magee Brothers Co., Inc., Piqua, O. A new Miehle Vertical press carrying serial number 15,000 was installed as one step in the company's program of plant and equipment modernization.

Magee Brothers Co.'s history is one of progress from a small one-room plant 53 years ago with one job press to its own two-story brick building, producing all types of letterpress printing, and being equipped with all Miehle presses.

One of the outstanding characteristics of Magee Brothers Company is the manner in which the company has retained its employees. Of the 25 employees on the rolls at the present time, 13 have been with the company for periods ranging from 25 years to 51 years. Many of the original employees remained with the company and became stockholders.



**Miehle V-50 Vertical press carrying serial number 15,000 installed in plant of Magee Brothers Co., Inc., Piqua, O. Left to right: Carlton Mellick, Miehle vice president in charge of sales; H. D. Rice, vice president and sales manager Magee Bros. Co.; Joseph C. Dellinger, pressman in charge; W. H. Hammett, Jr., Miehle sales representative, Cincinnati; Raymond L. Hammer, president, Magee Bros. Co.**

### Electronic Control

Albin discussed and demonstrated from a model which he mounted on the platform, the Linotype Electronic Metal Pot and Mouthpiece Control. The heart of the control is a resistance bulb. The bulb is provided with a coil of fine nickel wire wound around a mica core and is supported by a silver spacer which quickly transmits temperature changes to the nickel wire core. When the metal temperature decreases it decreases the resistance of the nickel wire. This change in resistance is converted by means of a simple bridge circuit into a change of voltage. In the thyratron tube an electronic stream passes between the cathode and the plate and the plate current energizes the relay coil to allow current to pass into the metal pot heating units. The action is reversed when the temperature of the metal increases.

There are no moving parts in the electronic control except the mercury relay. The mercury relay cannot weld as the contacts are liquid and are sealed in a glass tube.

Adjustment for temperature is made by screwdriver. This control adjustment is accurate within 2/10 of 1 deg.

On a Linotype machine having an electric pot and using an electronic temperature control there would be a dual unit—one for the crucible and one for mouthpiece control. In addition to mounting this control on the Linotype, the control can be mounted any place away from the machine up to 1000 ft.

### Maintenance Work

With respect to a system for taking care of quadder and Mohr Lino-Saw mechanisms, several suggestions were made. Fred Hawver, Chief Machinist, Cleveland *Press*, explained that at the *Press* these devices are blown out with air every day; they are kept scrupulously clean.

John Peecook, Chief Machinist of the Cleveland *News*, stated the Mohr Lino-Saw is maintained by taking off the first elevator once a week for removal of accumulated metal dust and general cleaning. Mohr Lino-Saw bearings are given attention every four months; kerosene is used to wash them out and penetrating oil is used afterwards.

Someone wanted to know if it is good practice to maintain a plant by overhauling machines in units. Mr. Hawver stated that in the *Press* plant keyboards, magazines and matrices, distributors and other parts are cleaned by the unit system. If this system were not followed it would be impossible to give machines proper maintenance attention.

Peecook supplemented Hawver's remarks by stating that in the case of major machine repairs, for instance a distributor beam, is taken into the machinists' shop at a time when production of the machine can be spared. Importantly, he pointed out that he keeps records of all maintenance and repair operations.

Theodore Gardiner, Chief Machinist of the Indianapolis *Star*, stated there are 35 machines in his plant, 34 of which are being operated. His force consists of six machinists and one apprentice. In the past six months 34 machines have been gone over thoroughly for periodical maintenance work and repair. The repair work is done according to availability of machines productionwise.

Mr. Gardiner explained that in some of the smaller plants into which he has been called to straighten out machine troubles, sufficient time is not given the operator to do simple daily maintenance routine work. Mostly, however, the smaller plants allow machinist-operators time in which to care for machines.

### Extra Tin Content Metal

The next question was as follows: Is it good practice to raise the tin content of type metal in a plant operating display machines?

In response to the request of Chairman Chalifoux, C. Frank Mann, Composing Room Supt. of the Louisville (Ky.) *Courier-Journal* and *Times*, discussed the use of 6% tin content line-composing machine metal. He stated there were 13 editions per day. Most, but not all of the pages, are sent back to the composing room from the stereotype department, some of which undergo 13 moldings. He said that if his plant were running only three editions there would be no excuse for using higher tin content line-composing machine metal.

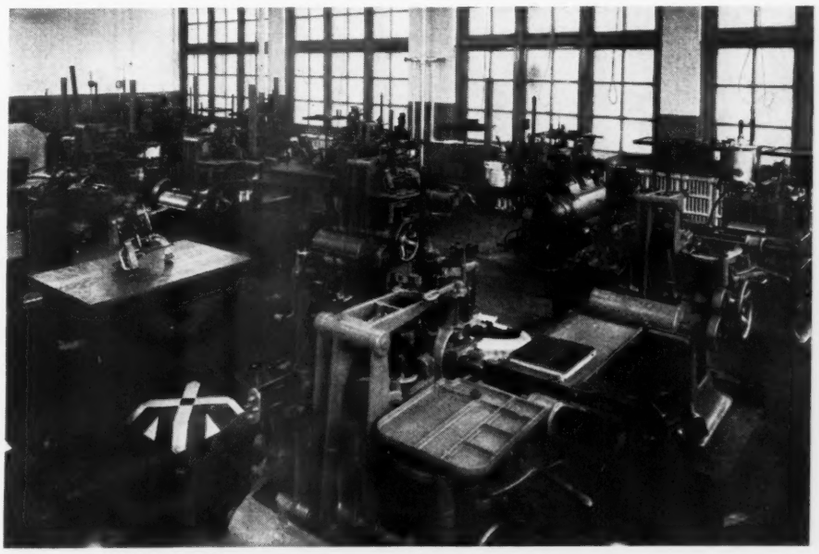
Chairman Chalifoux requested Clarence Seaman, Vice President of Imperial Type Metal Co., to discuss the question. Mr. Seaman stated that in a plant operating both straight-matter and display machines the answer is definitely "No." This opinion is based on information received from his company's metallurgists and research men. Neither is it practicable to use two kinds of metal in a newspaper composing room. He stated that the answer to securing slugs which will withstand stereotype molding pressures is a competent machinist. Use of the higher tin content in metal does yield slightly greater solidity to the slug but its use is expensive. Metal with a tin content of 4% or 4.20% can be made to cast satisfactorily for all composing room purposes.

W. C. Roddy, Manager Metals Refining Div. of The Glidden Co., agreed with Mr. Seaman that good slugs can be obtained by the use of 4% to 4.5% tin content if the metal is kept clean. He enumerated contaminating elements such as string, gum wrappers, cigarette butts, brass and zinc. He stated there was a total of 24 items which could contaminate metal. He decried the laxity and carelessness in newspaper remelting room operations. Particularly he stressed the necessity for proper cleaning of the molten metal in the remelting furnace through the use of green wood or potato properly submerged in the metal. He asserted that metal with tin content of 5% to 5.5% increased density of the metal and improves escape of air from the mold cell when the metal is injected into the mold.

John Peecook, Chief Machinist of the Cleveland *News* arose to state that if the pot crucible is fouled with oxides or dross no 6% tin-content metal can be made to work. Roddy stated he conveyed the idea that metal would function satisfactorily in a machine which was kept in proper mechanical condition.

### Don't Shut Off the Current

It seemed to be the consensus of opinion that it is not good practice to



**View of casting machine section at the Lanston Monotype Machine Co.'s school for keyboard and casting machine instruction which was re-opened on February 14th. The school is operated primarily for the benefit of owners of Monotype machines desiring to train people to operate such equipment. Principal of the school is John C. Mayr assisted by Earle Cowperthwait. Equipment consists of 18 keyboards and 13 casting units, Material Maker, Giant Caster, Type-&-Rule Caster, and the Monotype-Thompson Type Caster. Courses are offered in the operation and maintenance of these machines, and vary in length from five to nine weeks. A nominal fee of $10 per week has been set for the instruction. The 10 text books required are priced at cost and can be purchased at the school. Other instructional leaflets are issued without charge as needed. Further details may be obtained by writing the Lanston Monotype Machine Co.**

shut off the heating current on line-casting machine electric metal pots when the machine is not in operation over the week end. Reasons are that enough electricity is required to bring the metal in the pot from solid to molten operating condition on Monday morning so that there is no economy in current consumption. Others thought the stresses and strains set up by radical expansion and contraction of bulb and bellows types of thermostats injured the parts.

It seemed to be the consensus of opinion among the composing machinists present that it is more satisfactory for them to take care of and adjust electric metal pots rather than delegate this duty to someone outside the department. It was felt by Harold G. Johnson of the Columbus (O.) *Dispatch*, Theodore Gardiner of the Indianapolis (Ind.) *Star* and Chairman Chalifoux, as well as several others that the machinist understands the requirements thoroughly, particularly with respect to packing crucibles and replacing and adjusting pot parts. It was agreed unanimously that conduit and line wiring should be taken care of by the plant electrician.

With respect to the length of sprues on the average slug, John Peecook, Machinist of the Cleveland *News*, said the vent slots in the mouthpiece should be cut to permit sprues about 1 in. in length. Gardiner asserted, however, that on display slugs the slots should be cut to permit casting a 2 in. sprue.

### Taking Temperatures Without Instruments

In response to a question about testing pot mouthpiece temperature where a pyrometer or indicating instrument is not available, Mr. Hawver stated an approximation of the temperature could be obtained as follows: To secure about 480 deg. mouthpiece temperature, draw the corner of a 6 pt. slug or piece of strip-cast rule slowly the length of the mouthpiece; then while drawing it slowly to the starting point note if there is a slight tinning effect on the mouthpiece while returning the corner of the slug slowly to the starting point.

Chairman Chalifoux answered the next query. Someone wanted to know at what speed the keyboard rolls should revolve for good keyboard action. He stated that on a machine operating at 7½ lines per min. best results are obtained with the roll shafts turning from 340 to 360 r.p.m.

The chairman also answered the question related to determining temperature of metal in the pot crucible when a thermometer is not available. He suggested the rule-of-thumb method of folding a strip of newsprint proof paper and submerge one end into the molten metal. When withdrawn, the newsprint should be turned to a light brown color.

## *Photoengravers*

ON Tuesday morning, January 18, W. F. Alexander, Photoengraving Supt., Cleveland *Press*, presided as chairman. He was assisted by Henry W. Arbogast, Photoengraving Supt., Milwaukee *Journal* as co-chairman.

The first speaker was Sam Anson, jr., Sales Mgr., Chemco Photoproducts Co. Mainly, Mr. Anson's address was concerned with several new equipment items. With respect to the Infrared Burning-In Oven, he stated it is a slower operation unit than the gas model. Users of this oven, said he, soon discover that their housekeeping problems so far as etching room cleanliness is concerned, are greatly minimized. The infrared over forestalls the constant swirl of hot agitated air which carries a mist of etching power and deposits itself on all objects in the etching room. He claimed users of the Chemco Infrared Oven also discover that color plates burned-in with the oven are more certain to maintain plate register. The oven is equipeed with 24 infrared bulbs, (375 w. ea.) 12 on top of the plate and 12 underneath the plate. He asserted that the Chemco Infrared Burning-In Oven fuses power evenly

(*Continued on Page 62*)

# Research Progress in the GPO

By M. S. KANTROWITZ*

**Technical Director, U. S. Government Printing Office, Washington, D. C.*

RESEARCH in the Government Printing Office is concerned with applied science which might be defined in this instance as a search for and development of the materials best suited to handling the work which is presented to us by Government departments. In other words, *technical* research in this Office is of a practical and immediate nature as contrasted with certain theoretical research in the fields of pure science pursued by some laboratories. It is research which leads fundamentally to the discovery of new products adaptable to the uses of the graphic arts or to new developments in the application of methods of procedure in printing, platemaking, bookbinding, roller manufacture, type metal casting, and ink making operations.

This work extends to a study of the needs of our processes from a technical viewpoint and leads to a combination of technical work performed in the laboratory and the practical application of the laboratory results of such investigation to plant operations.

The results of our research are reported in the Annual Reports of the Public Printer and in technical bulletins and many scientific papers published in the trade magazines and offered as presentations before scientific groups interested in the graphic arts.

There have been, in the past, research associates maintained by certain industries at their expense in our laboratory for pursuing investigational work for their own organizations. These associate chemists have functioned under the research associate plan established by Congressional Act pertaining to Governmental departments.

### Paper

In cooperation with the Technical Association of the Pulp and Paper Industry and the American Society for Testing Materials, our laboratory has developed methods for testing paper, especially those tending toward correlation with certain printing qualities, in order that printability under given conditions may be reasonably predicted before the paper reaches the press. Methods for testing smoothness, surface strength, (the pick test) and ink receptivity fall in this category and have been written in our laboratories and adopted by both TAPPI and ASTM.

### Inks

*Printing Inks for Plastic Transparencies*— No Government standard specifications for printing inks have as yet been developed. The research work conducted in the Government Printing Office, however, has resulted in the development of formulas for printing, addressograph, mimeograph, stamp pad, numbering machine, ruling, and writing inks manufactured by the Office for its own use and for that of other Governmental departments in Washington, D. C.

Presently we are engaged in developing suitable printing inks for high quality printing by letterpress on plastic surfaces and for the production of transparent proofs to be used as film negatives for the production of deep-etch offset plates and photographic prints.

*Treasury Check - Signature Inks* — The nature of the equipment used in signing Treasury checks requires that the ink should dry only by penetration into hard stock within a period of a few hours. It shall not foam during the operation of the check-signing machine and shall not corrode the rollers, plates, and other parts of the check-signing machine in which the ink is encountered. It shall also

possess certain safety and identifiable features whereby any attempt to defraud or counterfeit may be readily detected.

*Drawing Inks for Plastics*—At the request of several Government departments, work was initiated to develop plastic writing and drawing inks involving the study of viscosity, surface tension, solvent properties, and vapor pressures of various possible solvents. Our experimental work has resulted in the formulation of such an ink.

Other inks in the process of development are quick drying, water-base mimeograph ink, offset developing ink, stencil addressograph ink, multilith inks, etc.

*Quick-Drying Inks*—Special attention is being given to a study of synthetic resins with a view to finding suitable vehicles for the production of quick drying ink, with and without the use of heat.

### Bookbinding

*Resinous Adhesive Applications*—Investigation of synthetic resinous adhesives for use in bindery operations such as gluing-off, perfect binding, covering, and lining-up is being conducted. These studies include possible changes in machine design as well as the development and use of suitable fast setting adhesives. Laboratory tests are now in progress on samples of the emulsion type adhesives as well as with the hot melts.

Plans are in progress for an early test on the perfect binder using a combination of emulsion adhesive and a hot melt.

*Nylon Thread*—Laboratory and performance tests have been conducted with nylon sewing thread over a considerable period of time resulting in use at the present of size No. 24 nylon sewing thread in place of No. 36 cotton thread for Smyth book sewing. Investigation of a treated type of nylon sewing thread of less stretch and greater strength has recently been begun and tests so far indicate that this type of nylon thread is more satisfactory than the untreated nylon for sewing books containing signatures of both machine finish book paper and coated stock.

*Laminating*—Research is conducted on the development of a continuous laminating machine for use in laminating semi - rare documents with plastic sheeting.

Several types of prepared pressure sensitive sheetings have been obtained commercially and used successfully in laboratory tests. Samples of laminated documents have also been prepared in the laboratory by the application of an adhesive to cellulose acetate film. All of these samples have been subjected to accelerated aging tests and found to resist aging to a high degree, and at present a machine is under construction which will apply either the prepared sheeting or adhesive and sheeting to documents in a continuous operation.

### Type Metals

Standardization of type metal alloys in the United States Government Printing Office has proven to be a very important problem. After a thorough technical study, standard formulas were adopted for linotype, monotype, stereotype, and electrotype metals. Since type metal alloys deteriorate with each melting, it is necessary to maintain their standard composition by daily analysis and correction of the metals as each of them is returned for remelting. The technical control of type metal has resulted in increased production with a minimum amount of resetting. Longer runs and sharper printing have resulted from this research and standardization. A joint GPO-PIA bulletin entitled *Composition* and designated M-1 has already been published for use of PIA membership.

### Platemaking

*Copper Deposition*—In the field of platemaking, investigation of copper reduction processes were begun with the objective or purpose of developing, if possible, a procedure which might be used with the spray process to replace the more costly silver spray process.

*Copper Fluoborate*—Investigation was started, employing copper fluoborate solution with a view to reducing the time required for depositing copper electrotype shells. So far the results obtained are not sufficiently satisfactory to warrant this procedure and production.

*Tin Fluoborate Solutions*—Considerable interest has been manifested in the electrodeposition of tin and copper electrotype shells as a substitute for tinfoil prior to casting. Standard fluoborate solution was reported for this purpose to be an efficient tin plating solution with good throwing power which can be operated at room temperature and easily maintained. Such solution was tried in the Government Printing Office with satisfactory results. However, the critical tin situation has not permitted much relaxation of wartime tin control and the Materials Distribution Branch of the Department of Commerce is still restraining the purchase of pure tin anodes and tin salts required by electrotypers for preparing tin plating solutions. For this reason, the adoption of tin plating to replace tinfoil by this Office, as well as by many electrotypers, is being delayed until tin becomes readily available.

Search is being made for additional and perhaps more efficient adhesives for use in platemaking. For example, as for mounting printing plates of zinc, copper, magnesium, rubber, adhesive, this project is in accordance with Joint GPO-PIA research program. A manuscript entitled *Electrotyping* has been prepared by the Government Printing Office and submitted to the Research Committee of Printing Industry of America, Inc. for their comments prior to publication. This manuscript outlines in detail the methods employed in electrotyping and includes the formulas for two silver spraying solutions used by the Government Printing Office and developed by its chemists for silvering electrotype molds.

### Press Rollers

Research in the manufacture of composition press rollers usually composed of glue and glycerine has resulted in the use of a partial substitute for glycerine. Work is in progress to find a complete substitute. Laboratory work upon this phase of research has been completed, and composition rollers made with these substitutes are under surveillance tests in the pressroom.

### Duplicating Processes

A research program has recently been instituted towards standardizing solutions used in connection with direct image paper plates and to develop a satisfactory ink for preprinting these direct image plates by letterpress or offset. Also to develop specifications for these plates and for solutions, etches, and other materials used in duplicating processes. It is also intended to determine limitations and applications of the various paper plates on the market.

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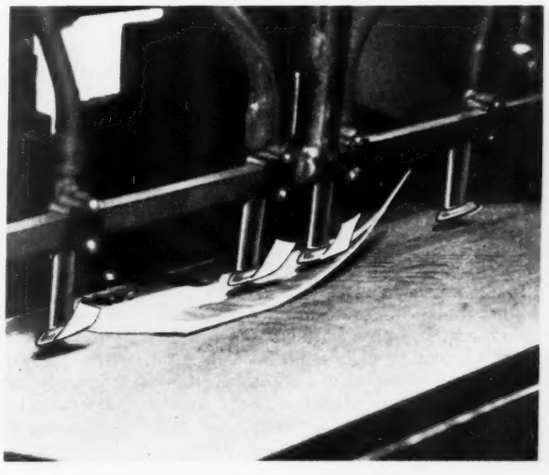
**FEEDING CURLED WINDOW ENVELOPES**—Window envelopes, unlike other envelopes, often curl, so much that when they are fed on a Kluge, for instance, one or more of the sucker feet may catch the envelope at one of the window edges and yank it off the platen. In the Cather Bros. shop, in Birmingham, Ala., Dwight Cather, one of the owners, worked out a kink to solve this problem. He glued a piece of gummed paper about 1½ in. by 1½ in. on the sucker foot that was catching on the edge of the envelope window. Then he cut a hole in the gummed paper so that suction of the foot would pick up the envelopes. The front edge of the gummed paper is turned up slightly as shown in the illustration. After delivering the envelope to the platen, the sucker foot with the piece of gummed paper attached to it glides over the window without difficulty.



# Equipment and Supplies

(Continued from Page 38)

### Intertype Faces

LYDIAN and Lydian Bold, both roman and italic, in sizes from 8 pt. to 36 pt., has been announced by Intertype Corp. This is a reproduction in Intertype matrices of Lydian as designed by Warren Chappell and it is being cut by arrangement with American Type Founders. Cornell is a new book face designed by George Trenholm, Intertype's counselor in type face design. Cornell is now available in 8, 10 and 12 pt. with other sizes in process.

### Hammond EasyKaster Scorcher

HAMMOND Machinery Builders, Inc., announce the EasyKaster Scorcher, Model E15-27 for scorching and drying stereotype mats. The scorcher mounts on top of the Easy-Kaster melting pot and uses the heat escaping from the melting pot to scorch the mats. Maximum moisture elimination is provided through the grilled cover design, which is made of sheet metal strips on edge in checkerboard design. The top of the grill is covered with copper screening to keep particles out, and the bottom is lined with asbestos to keep air from contacting the mat.

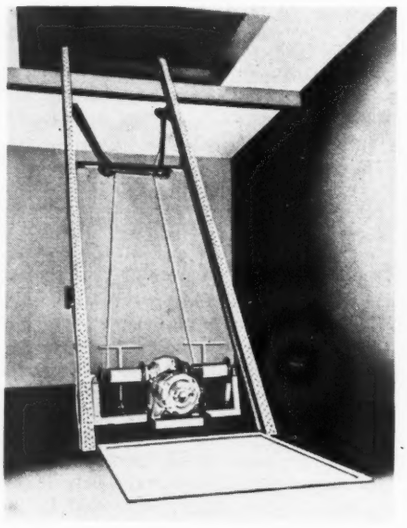
In the EasyKaster Scorcher can be handled the equivalent of 6 newspaper

column mats with tailpieces attached. Scorching area is 15 in. by 27 in. Cover hinges are slotted and floating which allows mats to be stacked on top of each other and also levels the cover on the stack of mats. Weight is 40 lbs.

For adding metal to the EasyKaster's melting pot the scorcher is raised up. A lip along the left edge of the scorcher and a self-locking latch keeps the mats in place. Further information may be obtained by addressing your request to Hammond Machinery Builders, Inc., in care of *Printing Equipment Engineer*.

### Stairlevayor Automatic Lift

THE Stairlevayor Automatic Lift has been announced by The Moto-Flow Co. This device can be installed in places such as shown in the accompanying illustration for floor to floor lifting or lowering of materials, or it can be mounted outside the building, fire-escapewise for handling materials between trucks and second-floor or basement space. Thus it will be seen that the Stairlevayor can be used as a lift in any open space or over an existing stairway. Steel built-in stairway is optional. The device is adjustable for any stair length, width or incline pitch. Can be set up completely and wired, ready for operation, in less than a day's time. The unit



View of Stairlevayor Automatic Lift in position to transport up to a max. load of 3 T. Platform can be up to 6 ft. by 6 ft. Device can be installed as shown, or over an existing stairway, or outside the building fireescapewise. Provided with safety features. Steel stairway built-in can be supplied optionally.

is self-contained—no special shaft space or reinforcements required.

The safety factor is stated to be 5 to 1, plus 45 deg. angle stress to reduce load weight by one-half.

Motors of 1½, 2, or 3 h.p., or larger, furnished depending upon engineering requirements for the application involved; a.c. motors only, in 115 v., s.ph., 22-240 v., 2 and 3 ph., 50-60 cy. Other motors to suit requirements.

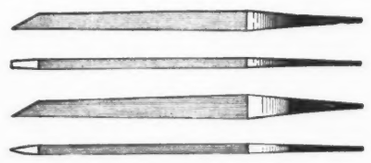
Manufacturer states the safety brake is effective through entire limits of travel. Limit switches automatically stop platform at upper and lower limits. Magnetic brake instantly holds platform at position stopped. Slack cable cut out immediately sets magnetic brake should anything interfere with platform decent.

Brake action is almost instantaneous on cable breakage or insufficient tension. If both cables are suddenly released, the platform will not drop more than 1 in., loaded to capacity or empty. Brakes cannot release until both cables have sufficient tension to support weight of platform and load.

Cable is Macwhyte ¼ in., 6 in. by 19 in., preformed plow steel, rated at 2.6 T. or 5200 lbs. strength. Length: 3 stories. Width: 6 ft. Load Capacity: Max. of 3 T. Platform: Up to 6 ft. by 6 ft.

### Grobet's Catalog of Gravers

IN THE catalog put out by Grovet File Co. of America, Inc., that Company's line of gravers and other tools for hand engraver are illustrated and described. Features of the catalog include a sketch of the history of engraving, facts

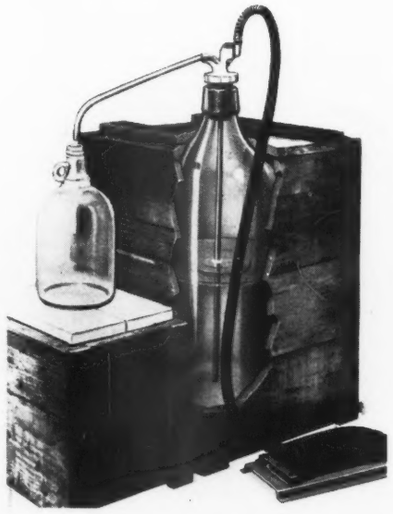


on suitable steels for the manufacture of gravers and their modern uses. Allied tools are also mentioned in the book along with a page devoted to Grobet Swiss Precision Files. Requests for this catalog should be made through your local supplier.

### Improved G-S Acid Pump

THE General Scientific Equipment Co. introduces a device for transferring acids and other liquids from carboys, barrels or drums. This is accomplished by a foot-or hand-actuated Pneumatic Pump that controls the flow of the liquid.

G-S Pumps with lead tubes are suitable for Sulphuric, Hydrochloric, Hydroflouric Acids and many others. Saran Plastic Tubes are recommended where



the Pump is to be used in Nitric, Muriatic, Citric, Phosphoric, Acetic, Bleaches and others. They come in contact only with the corrosion-resistant tube and cannot affect other parts. When the tube is removed from the container, the liquid will drain completely off.

Further information may be obtained from General Scientific Equipment Co., or *Printing Equipment Engineer* will gladly pass along your request.

### Junior Walton Humidifier

ANNOUNCEMENT has been made of the Junior Walton size humidifier which is manufactured by the Abbeon Supply Co. to fulfill the need for a humidifier to take care of medium

sized areas. The machine works in the following manner: Water is brought into the bottom pan of the unit and the water level is controlled by a float valve. A hollow copper tube rotating in the water forces a thin stream to ascend onto a disk revolving at 3450 r.p.m. This fine sheet of water is hurled onto a circular copper comb and instantly pulverized. Mounted on the bottom of this copper disk are small blades which create a turbulence in the air inside the unit. This air seeks escape and finds it through the portholes in the dome, carrying with it the finest of the water vapor from inside the unit. The coarse vapor falls down to the bottom of the pan and is re-used.

The vaporizing capacity of the Junior Industrial Humidifier is slightly over ½ gal. per hr. The unit can be hung from the ceiling or placed on a table or shelf. Specifications: Motor, 1/40 h.p., 75 w.; height of unit, 10½ in.; diameter, 13½ in.; shipping weight, 42 lbs. Unit is made of heavy gauge copper or other nonferrous materials. Additional information will be supplied by addressing your request to Abbeon Supply Co. in care of *Printing Equipment Engineer*.

### Heat Seal Papers Manual

The third edition of the technical manual *Nashua's Heat Seal Papers* published by Nashua Gummed and Coated Paper Co. is now available to printers, publishers, packers and machine manufacturers. Contents of the manual include a general description, advantages, heat seal variables, suggested uses, method of application, printing and processing, storage and packaging, and standard grades of Nashua's heat seal paper products. Copies of the manual will be mailed free of charge to interested readers by addressing your request to Nashua Gummed and Coated Paper Co., Nashua, N. H.

### Ideal Synthetic Rollers

DIFFERENT applications for synthetic rollers are noted in a recent bulletin issued by the Ideal Roller & Mfg. Co. Manufacturer states these rollers may be used with aniline, heatset or linseed-base inks and for either hot or cold waxing by dry or moisture-set process. In the bulletin light setting for synthetic rollers, daily washup and periodic checkup are advised. Any dried ink or ink film should be removed with the aid of a solution of household lye and tap water. Coal tar derivatives (benzol, toluol, etc.) and chlorinated solvents (carbon tetrachloride, ethylene dichloride, etc.) will eventually render rollers unfit for use when used to excess. Ends of rollers should also be checked during periodic cleaning for any damage that may have occurred. It is suggested that the ends be well painted with a little glue composition, shellac or varnish. Copies of this bulletin may be obtained by writing Ideal Roller & Mfg. Co. direct, or by sending your request to *Printing Equipment Engineer*.

### Permits Application of Dry Labels to Containers

NASHUA Gummed and Coated Paper Co. has announced development of a machine (called the Pervenactor) which can be used in connection with application of labels in

**Shown in left foreground is a Nashua Pervenactor machine which is used to soften or make tacky the adhesive face of Nashua delay action heat seal label paper. The operator is applying label to container which has just been passed through the machine. It is reported that two operators in Westinghouse's Essington plant are able to label 1500 containers per hour, irrespective of the size, shape, or type of container.**

dry form to wood, steel, corrugated board and to enameled, glass and tin containers. The machine is designed to be used with Nashua's delay action heat seal label paper, which is called Pervenac. Upon being passed through the Pervenactor machine, heat transferrance makes tacky the precoated adhesive face of the label. The softened adhesive side of the label then is applied to the container.

As is stated above, the Pervenactor machine is designed to activate Nashua's delay action heat seal label paper. Activation of the adhesive face of the label is thermostatically controlled by means of a roll heater which directs the heat into the precoated adhesive face of the label. The machine weighs 20 lbs. and will handle a label up to 4 in. width. It is driven by a 1/70 h.p. motor, 110 v., a.c.

The labels are fed by hand into a slot at the top of the machine behind the heater roll; they are carried through the machine and are ejected adhesive face up, ready to be attached to the container. The adhesive is claimed to remain tacky for several minutes after passing through the machine.

Labels can be applied to curved or several-sided surfaces.

Further information may be obtained by addressing your request to *Printing Equipment Engineer*.

### Purchase Announced

ANNOUNCEMENT has been made by Albert R. Kreck, President of General Plate Makers Supply Co., of the purchase of the Graphic Arts Appliance Co. by his organization. The new company is to be called the General Plate Makers Equipment Co. This organization will continue to manufacture general photoengravers', offset and gravure platemakers' supplies and equipment previously made by Graphic Arts Appliance Co. In addition, electric etching machines, stripping tables, whirlers, etc., previously made by the General Plate Makers Supply Co., will be included in the new company's line of manufactured products.

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The Eagle Printing Ink Co., Div. of Sun Chemical Corp., recently honored Andrew J. Try, Chicago Branch Manager, at a dinner commemorating the 38th anniversary of his association with the organization. He was presented with luggage and a gold watch for his long service and splendid record. Though retired from active duty, Try will continue to contact a few of his accounts.

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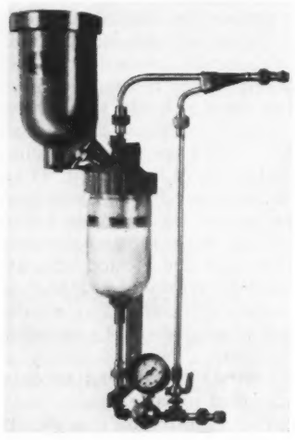
**IPI Color Guide**—A new Letterpress Color Guide in both file and pocket size has been announced by International Printing Ink. The guide contains 108 IPI colors for general work, new process colors and an improved line of halftone blacks. Each color specimen carries the monochromatic specification and Munsell designation as well as the IPI formula number. The 20 pages of color swatches and instructions are indexed for reference and are plastic bound.

### Junior Dri-Spray Model

PANYE & Craig Corp. has announced the Junior Model of the Craig Dri-Spray for automatic intermittent spraying of sheets on letterpress and offset presses not exceeding 34 in. by 48 in. in sheet size. Features of the



G34 model include a transparent tank which enables the operator to see the supply of powder at all times. The spray can be refilled and regulated while it is in operation and the press is running. The spray tube is mounted on the rear jogger wing of the delivery unit of the press and sprays across the sheet under low pressure. Additional information on this model can be obtained by addressing your request to Payne & Craig Corp. in care of *Printing Equipment Engineer*.

### Numbering Machine Cleaner

AL JASSER, President of Anchor Chemical Co., Inc., announced recently Numbering Machine Cleaner No. 909 for cleaning and lubricating numbering machines. Initially prepared for a check book printer who had trouble with his numbering machines, Anchor's chemists developed the cleaner. Because of high speed operation and the use of fast drying inks, ordinary methods and solvents could not keep the small intricate parts of the numbering machine in clean working order. Manufacturer claims the cleaner penetrates the smallest and most intricate parts of the machine, dissolves and removes all dried ink. A thin protective lubricating film is left on the working parts. This film prevents rusting and sticking. Further information may be obtained by writing Anchor Chemical Co., Inc., in care of *Printing Equipment Engineer*.

### Extension Delivery

THE Rathbun & Bird Co., Inc., has announced a new model Extension Delivery. Designed for both face-up and fly operation, it is built for the printing plant that requires both methods of sheet delivery. Manufacturer states that on the standard Model D and the new Model E Extension Deliveries stock from thin paper to cardboard can be handled. The single-action platform lift is a feature of the Delivery which is operated by a crank handle on the feeder side of the press. The tape carriage can be raised, affording access to the ink fountain. An illustrated folder will be supplied upon request to the manufacturer in care of *Printing Equipment Engineer*.

### Photoengravers' Plate Bevelers

AN improved bench model plate beveler has been developed by E. E. Augustine for cutting a bevel or flange on copper, zinc or other metal plates. The Model C beveler is equipped with a ¼ h.p. motor, 60 cycle, a.c. Cutting wheel is four in. in diameter. Minimum plate capacity is ½ in. by ½ in., and maximum capacity includes plates up to 16 in. in length. Features adjustable gauge, dovetailed steel ways, and an improved chip guard for protection of the operator. Bench space is 22 in. by 36 in. Shipping weight, 225 lbs.

Augustine has also announced the Model D plate beveler having a plate

**View of Augustine floor model Plate Beveler for photoengravers. Instant locking, cam type holder secures plate during operation.**

capacity of 18 in. This floor model machine features a instant locking, cam type plate holder. Standard equipment includes the cast iron pedestal. Similar to Model C described above except that the weight is 350 lbs.

Further information may be obtained by addressing your request to *Printing Equipment Engineer*.

### Aniline Ink for Porous Stocks

INTERNATIONAL Printing Ink, Div. of Interchemical Corp., has announced a aniline-type ink for printing on porous stocks by aniline and anilox methods. Developed for makers of chip board cartons, paper towel wraps, napkins, counter rolls, egg and laundry boxes, and similar products, Anilox-OS is claimed by the manufacturer to dry quickly on such stock which permits immediate rewind, but is slow drying on the press. Synthetic plates and rollers are required for Anilox-OS, but it may be used on all standing aniline-type presses so equipped. Solvents in the ink are said to be hydrophobic and therefore repelled by the moisture content of porous and absorbent stocks. It is available in formulas free of objectionable odors and a wide color range. IPI stresses the fact that Anilox-OS is formulated for porous stocks only and is not suitable for cellophane, plastic coated paper or similar stocks. Additional information may be obtained by addressing your request to IPI in care of *Printing Equipment Engineer*.

### Controlled Humidification

ARMSTRONG Machine Works has issued a 12 page bulletin in which is described steam humidifiers for automatically controlling relative humidity to prevent dry air damage to paper and other hygroscopic materials being processed or in storage. Also described is the effect of relative humidity on human comfort and health. Explained is how maintenance of proper humidity will eliminate the fire and explosion hazards of static electricity where inflammable dust, vapors or liquids are present. Tables and charts are included on desirable relative humidity in various industries, regain of moisture in hygroscopic materials, and water content of saturated air at various given temperatures. The bulletin also contains installation, operation, selection and prices on eight models of Armstrong steam humidifiers. Described as Humidifier Bulletin No. 1771 it is available upon request to the manufacturer, or through *Printing Equipment Engineer*.

### Blatchford Pin Catch

E. W. BLATCHFORD Co. has announced a pin catch to facilitate the close placing and fastening of curved plates on the drilled plate cylinders for new rotary printing presses. In line with the drilled cylinder recently

**Drilled plate cylinder designed for the Blatchford Pin Catch which permits plates to be placed close to one another on the cylinder of a rotary press.**

announced, Western Printing Machinery Co. also states that grooves can be removed from existing press cylinders and sleeves sweated on. The sleeves are drilled to take the Blatchford Pin Catch. It is claimed the reworked cylinders will last indefinitely. It is also understood that new presses with the drilled cylinders will be available shortly. Further information may be obtained by writing E. W. Blatchford Co. direct, or *Printing Equipment Engineer* will gladly pass along your request.

# Cutter Useful

## *for making ruled job layout form*

IN making a layout guide for a ruled job, John R. Brougher, owner of the T-P Print Shop at Calvert, Tex., uses his paper cutter. He lays a piece of fairly heavy cardboard on the cutter bed letting it extend to the rear gauge. Then he lays a piece of white paper on the cardboard and sets the gauge to whatever measurement he desires. For instance, if the top rule is to be 2 in. from the top of the paper he will set the gauge at 2 in. Then he will drop the clamp and draw a line on the paper by running the pencil along the clamp.

If following this rule there are to be 10 rules each a ½ in. apart, he simply adds a ½ in. to the 2 in. getting 2½ in., lets down the clamp and marks a second line. This he repeats, adding a ½ in. each time to the last measurement, and drawing a line, until he has ruled off 10 spaces. The same procedure is followed for whatever variation there may be in distance between the lines.

After the sheet has been marked in one direction it is turned if other rules are desired at right angles. In this way an accurate layout guide can be made with the least difficulty.

In shops where the offset process is used, a layout can be made in by doing it in ink instead of pencil which, when finished, can be photographed direct.

**Field representatives of the Roller Division of The Dayton Rubber Co., Dayton, O. recently attended a three-day factory sales conference. N. H. Neilson, Sales Manager, is pointing out construction features in one of the new roller lines. Seated left to right are—R. G. Hopff, M. M. Taylor, W. D. Tuck, and Neilson. Standing left to right are: M. D. Coate, J. W. Hassman, R. R. Richter, E. T. Durphy, E. P. Dolan, and J. H. Shaw.**

## Mathematical Check Kink—Publication Form Layout

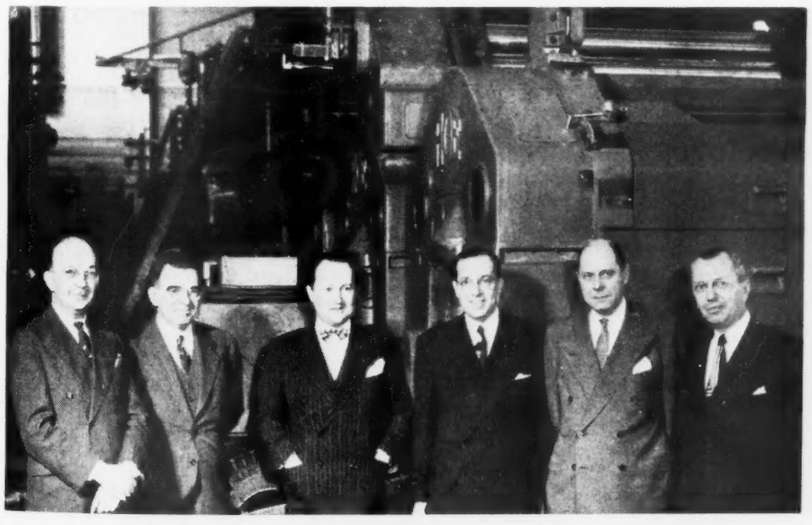
IN laying out the pages for a publication form even the experienced make-up sometimes rechecks to make sure that he hasn't put a page in the wrong place. Especially is this liable to happen if some one starts talking to him or if he is interrupted while making the layout.

R. G. Nelson, Hall Printing Co., 709 Washington Ave., Waco, Tex., uses a little mathematical check kink that is a sure-fire checkup to prove that all pages have been put in the right place in the layout. Starting at the upper left-hand corner each pair of two pages must add up to the same total. A typographical illustration will make clear the idea. Here is an eight-page work-and-turn publication layout:

| | | | |
|---|---|---|---|
| 2 | 7 | 8 | 1 |
| 3 | 6 | 5 | 4 |

Using this check kink, we find that 2 and 7 total 9, 8 and 1, 3 and 6, 5 and 4 each total 9. That proves that the pages are placed in the right position in the layout.

This little mathematical check kink will work on any form regardless of the number of pages in the form. Starting from the left and reading across as in reading, each pair of two pages must add up to the same total.



**Visit Hoe Plant** — Jack Howard, General Editorial Manager; Mark Ferree, General Business Manager of Scripps Howard Newspapers, and John Blake, Vice President of Scripps Howard Newspaper Supply Co., recently visited R. Hoe & Co., Inc.'s New York, N. Y. plant to view the final assembly of the second line of 16 newspaper printing press units with complementary folding, color printing and automatic roll changing equipment for the Cleveland *Press*. A duplicate press line has already been installed in the Cleveland *Press* plant, of which Paul Brannon is the Pressroom Superintendent. When the second line is installed the *Press* will have a 100% newly equipped pressroom with a total of 32 units and eight folders with supplementary r.o.p. color and full-speed roll changing equipment. Left to right in photograph taken at Hoe's main assembly floor are Mr. Blake, F. W. Schnell, Middle Eastern States Sales Manager of R. Hoe & Co., Inc., Mr. Howard; Arthur Dressel, Executive Vice President of R. Hoe & Co., Inc.; Mr. Ferree, and J. L. Auer, President of R. Hoe & Co., Inc.

## Less Foreign Trade

THE sales volume of printing machinery and equipment in foreign markets will most likely be less in 1949 than during the past 12 months, when sales surpassed any prewar year, according to Louis Pleninger, Vice President, foreign sales, ATF Sales Corp.

Pleninger based his prediction on two factors, as follows:

"The world-wide shortage of dollars will more severely restrict the American manufacturer doing business in foreign markets," he said, "and sufficient industrial recovery is being made by several European countries to offer sharp competition.

"In the meantime, a number of American manufacturers have found it advantageous to license their products for manufacture in foreign countries. The ATF Sales Corp., for instance, during the past year completed license arrangements for the manufacture of letterpress equipment in England and offset presses in Sweden. It may be expected that an increasing number of American firms will enter into this type of activity during 1949."

**PATRA'S NEW HOME—A new research center, with some 25 thousand sq. ft. of floor space, to house scientific and technological laboratories of the British Printing, Packaging and Allied Trades Research Association was formally opened last October. The property is situated on Randall Road, Leatherhead, Surrey, England. The building, (brick and concrete on a steel frame) on a 4½ A. site, is approx. 200 ft. long and 50 ft. deep and consists of three stories. Investment represents about £110 thousand. The Government had promised to subscribe £1 to a fund for every £2 subscribed by members, up to a total of £32 thousand; members were asked to subscribe £78 thousand if the total cost was to be met. To date a number of members have promised to support the fund in the amount of £30 thousand.**

**PATRA reports that an outstanding feature is the Technological Laboratory which extends from the basement floor up to the top story level. This 20 ft. of height and 2000 sq. ft. floor area will permit installation of printing and packaging machinery. Letterpress and offset plant have already been installed.**

**Some of the laboratories include: Research Laboratory, for work on measurement of printing pressures and makeready, and for work on drying printing inks; Laboratory for rheological research; Enquiry Laboratory for members' plant problems; Conference room; Library; Packaging Laboratory. The Technological Laboratory atmosphere is controlled at 65 deg. F. and 65% r.h.**

## Miehle Showing

A DEMONSTRATION of Miehle high-speed cylinder letterpress presses is currently taking place in Cleveland under the personal direction of Craig R. Spicher, Printing Research Director, Miehle Printing Press & Mfg. Co. The display consists of two of the improved Miehle presses—the V-50 Vertical and the No. 29 Letterpress. Samples of color process as well as black and white work produced by both presses are included in the display.

Assisting Spicher in the demonstration are Harold Kollars and Harry Lauchle, representatives of the Miehle organization. Both presses are in operation under the manipulation of Kollars and Lauchle who explain to visitors the features of each press. Night classes open to all pressmen are in progress to instruct them in operations of the presses.

The display, scheduled for the month of February, is at Cleveland at 2172 East 9th St.

### Excellent Booklet

THE Canton (O.) *Repository* recently issued an interesting 24 page booklet entitled, *The Story Behind Your Newspaper*. It contains a behind-the-scenes story of the daily publication of Canton *Repository*, carrying the reader through actual operation from the method by which the news is received to the delivering of the paper itself. Reproduced by offset on white coated stock, the booklet contains nearly 40 photographs of members of the *Repository* performing their daily tasks. Mechanical operations are well covered to show each phase of composition, stereotyping, presswork and mailing.

## PNPA
### *Conference*

RESOURCES of two newspaper organizations, the Pennsylvania Newspaper Publishers' Assoc. and the New Jersey Press Assoc. have been called upon to conduct a regional Mechanical Conference for production executives from daily and weekly newspapers in both states. The conference is scheduled for the Penn-Harris Hotel, Harrisburg, Pa., Friday and Saturday, April 1 and 2. Participation is expected from publishers' executives in Maryland, Delaware and West Virginia.

The Friday sessions will be devoted to a Photography-Photoengraving session and to a Composing Room session. The Saturday sessions will be taken up by a Press and Stereo session, a group luncheon and an afternoon session on Smaller City Newspaper Problems. Forrest H. Kirkpatrick, Dean of Bethany College, W. Va., will talk on Improving Personnel Relations. Reports on the ANPA Research program and the AAAA-ANPA Joint Committee on Newspaper Printing will be heard at the Saturday luncheon.

Among the featured speakers will be: Bernard F. Garrity, Production Manager, Gannett Newspapers, Rochester, N. Y.; Charles Frederickson, Mechanical Superintendent, West Chester County Publishers, Inc., Yonkers, N. Y.; Frank Donnelly, Mechanical Superintendent, Metro Associated Services, New York, N. Y.; John O. King, General Sales Manager, Ludlow Typograph Co.; Edwin H. Land, Polaroid Corporation, Cambridge, Mass.

A film presentation on Xerography will be given during the Photography and Photoengraving Session. This session will be in charge of Stanley Myers, Asst. Mechanical Supt., the *Bulletin*, Philadelphia. A comparison of photoengraving with Fairchild will also be made.

A panel discussion, with the panels comprised of practical production men, will be held during each of the four major sessions of the conference.

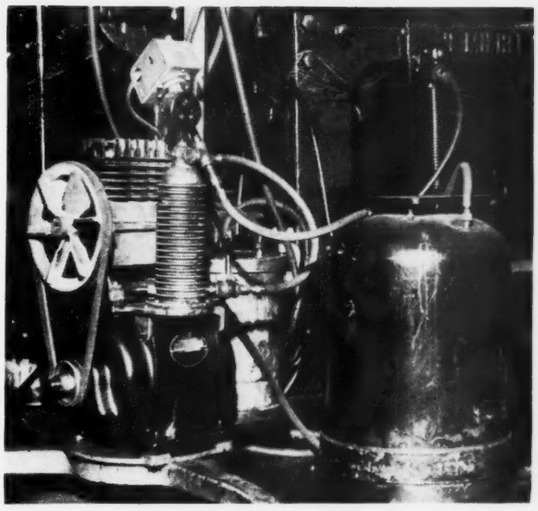
Paul V. Driscoll, Mechanical Supt., Connellsville (Pa.) *Courier*, is chairman of the PNPA Mechanical Committee, and Neal E. Dyer, Mechanical Supt., Camden (N. J.) *Courier-Post*, is chairman of the NJPA Mechanical Committee conducting this conference. Assisting Mr. Dyer are William C. Rolle, Pressroom Supt., Newark (N. J.) *News*, and Donnel F. Shortell, Composing Room Supt., Asbury Park (N. J.) *Press*.

### Engraving Ideas Contest

A PRIZE contest for the exchange of short-cut engraving ideas to benefit the entire industry is being sponsored by Edes Mfg. Co. Anyone working in an engraving plant may enter the contest by submitting a short-cut engraving idea which will be published in a book entitled *Edes Treasure Book of Engraving Short-Cut Ideas*. A total of 10 prizes will be awarded the winners, the first three of which are television sets and the remainder, electric blankets. The contest is designed to enable Edes to produce a helpful engraving idea book. Entries must be in by April 1, 1949. Further details can be obtained by writing Prize Contest Editor, Edes Mfg. Co., Plymouth, Mass.

### Patents Applied For

In its January issue, *Printing Equipment Engineer* carried an article about development of various paper fabricating attachments devised for use in connection with a paper cutter. John R. Brougher, owner of the T-P Print Shop, Calvert, Tex., tells us he has applied for patents on these devices. *Printing Equipment Engineer* regrets omission of the fact that patents have been applied for by Mr. Brougher.



**ADDS AUXILIARY TANK TO SPRAY COMPRESSOR**—The Art-Craft Publishing Co., printers to publishers, Birmingham, Ala., uses a Spray-O-Matic spray machine on some of its cylinder runs. It found, however, that the continual running of the compressor caused it to get too hot. Rapid wear took the machine out of service during the repair period. B. T. Williams, superintendent of the pressroom, worked out an idea that prevented the compressor wearing out rapidly and greatly increased the capacity of the spray machine.

A tank of 5 gal. capacity was connected to the Spray-O-Matic machine. A pressure switch was added to the machine and set to turn on at 45 lbs. pressure and shut off at 60 lbs. pressure. In this way the machine filled the extra tank. When 60 lbs. pressure is reached the pressure switch shuts off the flow of air and enabled the compressor to idle for a time. The compressed air runs through the machine which is equipped with a filter and from there into the extra tank. A check valve was added in the line between the compressor and the tank to prevent the air from backing up into the compressor.

Two spray guns instead of one can be operated from the extra tank which enables two adjoining cylinder presses to be equipped with spray guns.

This arrangement cut the pumping time two-thirds. Before this arrangement was hooked up the compressor used to get so hot that a hand couldn't be kept on it.

## To Expand Membership

Membership solicitation activities will be accentuated by the International Association of Printing House Craftsmen between now and the annual convention in San Francisco in September. International President Gradie Oakes has designated J. Homer Winkler, Third Vice President of the International, as Chairman of the Membership Committee.

April, 1949, has been designated as International Membership Month by President Oakes and all local clubs are planning for impressive induction ceremonies to feature April meetings. It is anticipated that over 1500 new members will become affiliated with the various Craftsmen's clubs prior to convention time. This additional membership will provide the increased revenue to expand International educational and service activities.

An International Membership Committee has been appointed by President Oakes to assist Chairman Winkler, as follows:

1st District, Carl A. Nelson, Boston; 2nd, J. E. Hitchcock, jr., Syracuse; 3rd, Gordon W. Wells, Montreal (Can.); 4th, Harry Susemihl, Philadelphia; 5th, Elmer M. Blacklock, Dayton; 6th, Earl S. Ellis, Milwaukee; 7th, Mike Capadalis, Memphis; 8th, Alden Dinsmore, Wichita; 9th, Paul Krueger, Dallas; 10th, R. W. Hardy, Seattle; 11th, Peter D. Neilsen, San Francisco; 12th, R. Lee Farmer, Los Angeles; 13th, Fred Allen, Winnepeg (Can.).

Each of these Craftsmen will appoint a district membership committee consisting essentially of the membership chairman of each of the local clubs within the district. The International Association Membership Committeeman of a particular district will also be chairman of his district committee. The district representatives are cooperating actively with all activities in their district. This organization is now being completed.

## Suggestion Plans

Executives responsible for the administration of employee suggestion plans are unanimously agreed that a continuous publicity campaign is a necessity for a successful suggestion program. This agreement was uncovered by the Metropolitan Life Insurance Co's. Policyholders Service Bureau during preparation of the report, *Suggestion Plans for Employees*. Prompt decisions on suggestions, both in making awards for acceptable suggestions and in putting the suggested changes into effect, are other prime necessities for a successful program, are shown. In fact, many employees are more interested in seeing their suggestions put to use than they are in monetary rewards. While the report was prepared primarily for Metropolitan Group policyholder companies, a limited extra supply is available. Executives may obtain copies by writing on business stationery to the Policyholders Service Bureau, Metropolitan Life Insurance Co., 1 Madison Ave., New York 10, N. Y.

## Not Connected

A. Dager, of Dager Maniform Co., 109 W. Washington Blvd., Los Angeles 15, Calif., informs *Printing Equipment Engineer* that the licensing contract between Maniform Corporation and his company has been cancelled. Maniform Corporation, according to Mr. Dager, is not connected with Dager Maniform Co.

## Creates Division

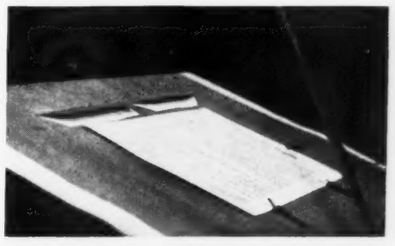
Wm. A. Force & Co. recently announced the forming of a Printing Equipment Division to facilitate the handling of printing equipment orders. The new division, under the direction and supervision of Harry H. Schultze, will centralize all printing equipment orders, correspondence and manufacture at one location under centralized supervision. The Printing Equipment Division is to be located at the company's plant, 216 Nichols Ave., Brooklyn, N. Y.

## RIT Evening Program

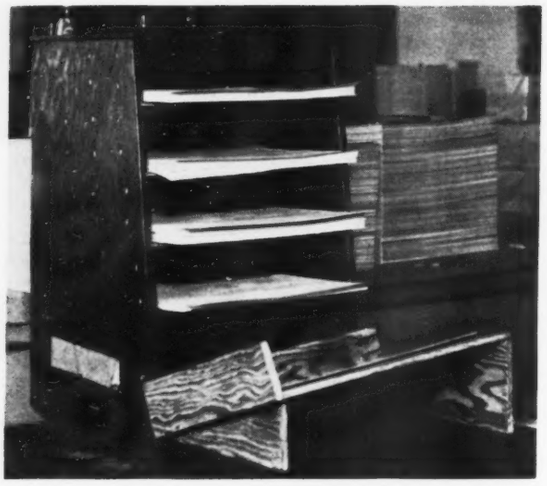
This year an evening school diploma program, which offers a comprehensive study in various phases of printing, has been offered by the Department of Publishing and Printing of the Rochester Institute of Technology. The program is designed for those who are already working in the trade and seek a better understanding of their own particular phase of the work. Also, those who wish to undertake study of another phase of the Graphic Arts in which they are interested and persons desiring to study printing but are unable to attend regular day sessions. The diploma is presented to the student upon his completion of a four-year course in one of the following subjects: Linotype and Intertype operation, letterpress presswork, offset lithography, and Monotype operation and maintenance.

## Prevents Displacement of Cross Ruled Sheet

IN printing a form with a great many cross rules in it on a platen press, the sheet will often curl upward along the upper edge when the sheet is in position on the platen with the ruling parallel to the lower gauge pins. To prevent this, J. C. Bedenbaugh, Shop Foreman of the Williams Printing Co., Spartanburg, S. C., cuts a line in the tympan paper running parallel with the upper edge of the sheet and barely clearing it. Then at both ends of this line that has



been cut into the tympan paper he cuts a shorter line running upward and at an acute angle to the first cut line as shown in the illustration. This makes a flap in the tympan paper that can be turned upward a bit thus forming a shield which keeps the air from displacing the printed sheet when the platen closes against the form. In the case of a large form, two such flaps will be cut instead of a single one. If two flaps are cut there is a small space, possibly an inch, between the two flaps.



Gathering cabinet and tray devised in plant of Askew Printing Co., Muskogee, Okla. The tilting tray in front of cabinet receives the forms.

## Gathering Unit Facilitates Work

PRINT shops doing much multiple form work that must be gathered and then padded or stitched will be interested in a gathering unit worked out by Leo Askew, brother of Roy D. Askew, owner of the Askew Printing Co., Muskogee, Okla. The unit consists of a cabinet sort of affair with shelves sufficiently large to admit the average form. There are several shelves to this cabinet-like unit, one shelf for each separate form that must be gathered. Besides the shelves, the top of the cabinet can also be used for one of the forms if necessary.

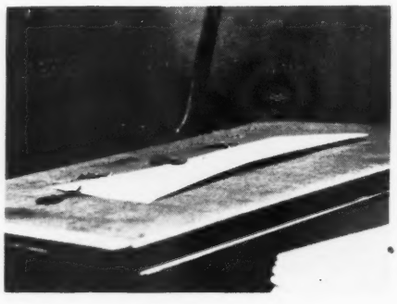
The other part of the unit consists of a tray placed in front of the cabinet. This tray slopes downward toward the back and also downward toward the left. At the back and on the left there are tray-like walls to hold the gathered forms in place.

The carbon paper that must be inserted between the different forms, if such is necessary, is placed to the right of this assembly tray. The two-part unit is placed on a table and the operator sits in front of it.

A very fast hand-gathering job can be done with this unit.

## To Get Register with Curled Envelopes

CURLED envelopes, especially the sizes from number 10 up, sometimes are difficult to feed if good register is desired. In the plant of Harmony-Woodruff, Inc., Sapulpa, Okla., C. L. Blair, the pressman, worked out a simple way to get register. After the usual three guage pins are put in place on the tympan paper in a platen press, the register fork from a Craftsman automatic is put in the center between the two bottom guage pins so that it lines up with the two guage pins. Then a finger is put on one of the grippers, depending upon the curl of the envelope and also where printing is located. This combination holds the envelope in place regardless of its curl and produces well registered jobs. With this combination, the press is no more difficult to feed than without using the register fork.



## Small Shop Techniques

**Stapled Booklets Made Easy** The trimming of stapled booklet jobs may be troublesome because there is a tendency for the booklets to slide as they are clamped in the cutter.

W. H. Shepherd, Shop Foreman, Union News Publishing Co., Jasper, Ala., has overcome this by means of a wooden block. Whenever he has some booklets to trim he cuts a piece of wood to a size a trifle less than the page size of the booklet. For instance, if the booklet is 6 in. by 9 in. he cuts the block 5½ in. by 8½ in. For wood he uses blocks from photoengravings that are of no value.

The booklets are put into the cutter in the usual way but before the pressure is applied the block of wood is placed on top of the pile of booklets so that the cutting knife will just escape it. The clamping pressure is then applied which is evenly distributed over the entire page of the booklet by means of the wooden block on top.

Mr. Shepherd keeps a supply of blocks on hand of the generally used sizes so there will be no loss of time preparing a block when a booklet job is to be trimmed.

**Uses Paper Drill As Cut Router** In the smaller print shop specialized equipment isn't used very often. Occasionally circumstances arise which call for the exercise of some ingenuity.

W. H. Shepherd, Shop Foreman of the Union News Publishing Co., Jasper, Ala., makes one piece of equipment serve for two. The shop had a Pioneer paper drill but did not have a router. Instead of buying a small router, Mr. Shepherd tried out an idea. He found it worked satisfactorily. He secured a Royal router bit, such as is used on routers and found that it exactly fit into the Pioneer paper drill chuck.

In using the paper drill as a router it is not possible to take off as much metal at a time as with a regular router. By not working too fast and not trying to take off too much metal at a time, a cut can be routed out as much as desired.

**Ribbon Badge Printing** Smaller print shops sometimes have a call for a limited quantity of ribbon badges for some local doing. Such shops are generally not equipped to do this specialized printing without losing time.

When a ribbon job comes into this shop now Mr. Shepherd cuts the ribbon to the desired length. Then he cuts some 2 or 3 ply cardboard a trifle larger than the pieces of ribbon. With a wire paper clip he fastens a ribbon to each piece of cardboard, making certain that one end of the ribbon meets one end of the piece of cardboard. With a wire paper clip holding the piece of ribbon at each end onto the piece of cardboard it is an easy matter to feed them accurately.

## Nail Polish

### Denotes Standing Matter

IN the smaller city newspaper plants sufficient journeymen help is not always available. The cleaning out of dead matter from yesterday's forms often takes up far too much time. To avoid this Harold B. Hardin, Composing Room Foreman of the Muskogee (Okla.) *Daily Phoenix* and the *Times Democrat*, has borrowed one from the girls and made the cleaning out of dead matter from yesterday's forms quick and sure.

What he borrowed from the girls is nail polish. He uses two colors, one a bright red and the other almost black. The red is used for standing advertisements, cuts and heads. The regular dauber that comes as a part of every bottle of nail polish is used to apply a stripe to some nonprinting part of an advertisement, cut or head. To denote standing national advertising the almost-black nail polish is used in the same way. As soon as the forms come off the press they are gone over and advertisements, cuts and standing heads are striped.

# Makes Certain No Signatures Omitted

IN a job where a number of signatures are to be side stitched with a pasted cover, C. H. Reynolds, Superintendent of the State Commercial Printing Co. of Columbus, S. C., makes certain no signatures have been omitted just before the collected signatures are stitched in the bindery.

In the case of 16 page signatures, Mr. Reynolds locks up in the first form, between pages 1 and 16, a vertical line of quads with the figure 1 at the top and with quad spaces making up the rest of the vertical line. This is locked so that the fold between pages 1 and 16 will exactly split this vertical line. In running the first signature form, the figure 1, naturally will print.

In locking up the second form, a similar vertical line of quads is locked up between pages 17 and 32. But this line has a quad at the top with a number 2 following to stagger the position of the figure 2 from the figure 1 in the previous form.

This process is repeated for every signature, but always spacing the signature number one quad below the preceding signature number.

When one of every signature has been gathered there will be a series of numbers from 1 on to as many signatures as there are in the book. The numbers will start with 1 at the right hand top and will be staggered downward for each signature number. The operator at the stitcher can take a quick glance at the back of the collected signatures and tell instantly if a number is missing.

If there are over nine signatures in the book job the numbering idea doesn't work out so well. In such case, it is better to substitute a type high em quad for the number so that instead of a staggered line of numbers there will be a staggered line of black squares.

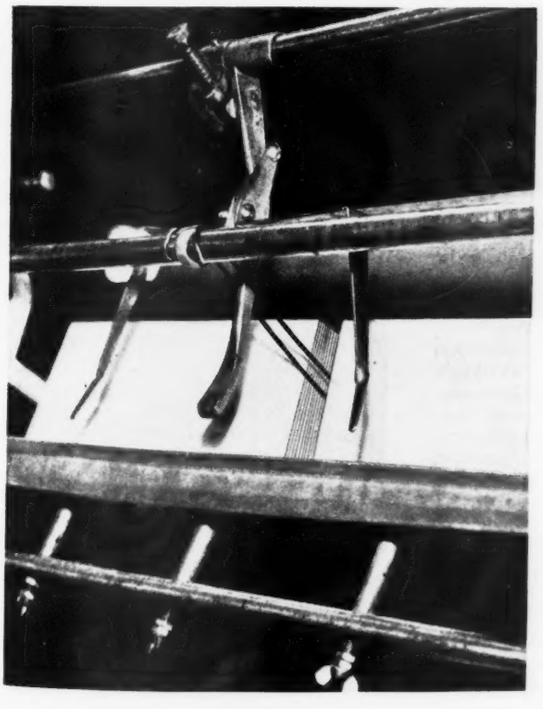
## Feeding Two No. 10 Envelopes At Once on Kluge Press

B. T. WILLIAMS, Pressroom Superintendent of the Art-Craft Pub. Co., Birmingham, Ala., devised a way to feed two No. 10 envelopes simultaneously on a Kluge press.

The two center separates were discarded because to use them would not allow sufficient space for the two No. 10 envelopes end to end in the feeding magazine. As a substitute for the separators, Mr. Williams drilled two holes in the elevator advancing plate of the delivery table. These holes were drilled close together and of sufficient size to admit a piece of stout wire. The wire is passed through each hole and looped around the elevator rachet shaft and fastened tightly so it won't move to the magazine gauge rear rod. In this way the elevator can move forward with ease, the wire slipping through the holes.

A skeleton chase is used for the lock-up since the two No. 10 envelopes require a wide form.

Two stacks of No. 10 envelopes are put into the feeding magazine, end to end with the previously mentioned wires serving as dividers. Since the two wires take up much less room than the regular separators there is just space enough to accommodate the double stack of envelopes.



B. T. Williams, Pressroom Superintendent of Art-Craft Pub. Co. Birmingham, Ala., devised a way to feed two No. 10 envelopes simultaneously on a Kluge Press.

## Two Counters on Press

IT often happens that a large press run must be marked off in separate quantities such as 500 sheets. To make this marking off easier, C. H. Reynolds, Superintendent of the State Commercial Printing Co., Columbia, S. C., uses two press counters.

On a cylinder press a counter is mounted close to the operator. Mr. Reynolds adds another counter at the delivery end of the press. These two counters are connected with a length of wire. In this way both counters actuate only when an impression is made.

By looking at the extra counter at the delivery end of the cylinder press it is an easy matter to insert a strip of paper when a fixed number of sheets has been run off.

## To Set Curved Line

THERE are a number of ways to set type in a curved line. J. C. Bedenbaugh, shop foreman of the Williams Printing Co. Spartanburg, S. C., uses the following method: He sets the type as usual in a composing stick. When the

line has been set he fastens Scotch tape along the nicked side of the type while the type still is in the composing stick.

The line of type is placed on an imposing table and is curved. The Scotch tape will hold the type together while forming the line. Often he will use an ink can and curve the type around it.

He places some metal furniture about the curved line in rectangular shape. Some ordinary paraffine is melted and poured in the area bounded by the metal furniture. When the paraffine has hardened the metal furniture is removed and the form is all ready to be locked in the chase. When using this method there is no deed to put quads or spaces between the letters because the paraffine will fill in the interstices and keep the type spaced as it was laid out on the stone.

### Stops Feeding Two Sheets

IN FEEDING soft book paper or stock that is slightly curled on a Miller feeder it sometimes happens that the suckers will pick up two sheets. T. A. Loftis, owner of the City Printing Co., 117 So. Brevard St., Charlotte, N. C., had considerable difficulty with this problem.

He cut two pieces of fine sandpaper each about 1 in. wide by about 3 in. long. He pasted these two pieces of fine sandpaper on the back of the guide plate, one on each side, toward the top. The stock being fed, resting against the sandpaper tended to become separated because of the unevenness of the sandpaper. Thus the suckers would pick up only one sheet.

# EXECUTIVE ¶s

Howard O. Bullard, Inc., typographers, New York, N. Y., have announced the election of Ralph P. Specce to the presidency of that concern. Two years ago, under Specce's direction, the Bullard plant embarked on an extensive modernization program. New equipment in the amount of $75,000 was added. The type library of 1100 fonts was augmented by the addition of complete series of Janson, Caledonia Bold, Times New Roman, Garamond No. 3, and Scotch No. 2. Specce served as plant superintendent of The Comet Press from 1940 to 1946. He is a member of the New York Typographical Union, a director of the Typographers Group, a member of the New York Club of Printing House Craftsmen and the Associated Printing Salesmen.

W. Wallace Kemp, President of the C. M. Kemp Mfg. Co., passed away recently at his home in Baltimore, Md. Kemp was President and Chairman of the Board of Directors from 1912 and served in this capacity until his death. He had succeeded his father, Clarence M. Kemp, founder of the company. Kemp

**W. Wallace Kemp, President of the C. M. Kemp Mfg. Co., who recently passed away.**

was internationally known, and was personally responsible for many developments for which he was granted patents. Development of a apparatus and system for the efficient combustion of fuel brought him the Edward Longstreth Medal of Merit from the Franklin Institute on January 21, 1920. One of his outstanding contributions was the adaption of the principle of immersion heating with premixed gas for the melting of type metal for line-casting machines and stereotype metal pots. As a member of the U. S. Power Squadron, he aided many young naval officers in World War II through his knowledge of celestial navigation.

Announcement was made recently by E. B. Davis, Vice President, Ideal Roller & Mfg. Co., of the assignment of W. Earl Murphy to represent that company in the St. Louis-Kansas City area. Murphy has been with Ideal for 12 years.

H. A. Porter, Vice President in Charge of Sales, Harris-Seybold Co., has announced three promotions in the home office sales organization. R. S. Cheheyl has been appointed Resale Products Manager. A. S. Holford, formerly sales office manager, has been named Assistant to the Vice President in Charge of Sales. J. H. Whipp succeeds Holford as Sales Office Manager.

O. P. Robinson, Vice President of Electric Boat Co. and General Manager of the company's Groton plant, has announced advancement of Harold W. Gegenheimer to Manager of the Printing Machinery Div. In his new position, Gegenheimer will be in charge of sales, service and engineering, and will temporarily assume the duties of sales management in place of Stuart E. Arnett, whose resignation as Sales Manager was

**Harold W. Gegenheimer, Manager, Printing Machinery Div., Electric Boat Co.**

also announced by Robinson. Prior to designing the EBCo. offset press, Gegenheimer spent many years in the lithographic equipment field. He collaborated with his father, William Gegenheimer in designing the original Willard offset press. He later worked as a design engineer for ATF. Prior to joining the Electric Boat Co. in 1946, he had been Chief Engineer of the Rutherford Machinery Div. of Sun Chemical Corp.

The establishment of direct sales representation in three new territories was announced recently by Carlton Mellick, Vice President in Charge of Sales, Miehle Printing Press and Mfg. Co. Those in charge of the new territories are William H. Hammett, Fred L. Bryant and D. H. (Bud) Moore. Hammett, representing Miehle in parts of Ohio, Kentucky, Indiana and West Virginia, with headquarters in Cincinnati, is an engineering graduate of the University of Pittsburgh. He came to Miehle after more than four years of service in the Bureau of Ordnance, U. S. Navy, completing his service with the rank of Lt. Commander. Bryant will work out of Atlanta, Ga. and cover the southeastern states. He formerly was Production Manager of the Ruralist Press in Atlanta and served as President of the Atlanta Club of Printing House Craftsmen. Moore, who covers all of Texas from the Dallas office, has been with the company for six years. Prior to entering sales work, he assisted in the compilation of parts catalogs.

The Wood Flong Corp., manufacturer of Stereotype dry mats, announces appointment of Louis F. Lahl as sales and service representative to cover newspapers and commercial shops in the Western part of the North Central territory. He has had practical experience in

**Louis F. Lahl recently appointed Wood Flong representative in North-Central territory.**

the newspaper and commercial stereotyping field commencing in 1920 when he was connected with a Chicago newspaper. In recent years he has been actively engaged in commercial and magazine stereotyping. He is a member of the IS&EU Local No. 4, Chicago, and will make his headquarters at 5901 So. 36th St., Omaha, Neb.

Harry S. Mount, former Vice President of the Goss Printing Press Co., died January 6 in New York, N. Y. Born in 1876, he became associated with Goss in 1922. At one time, Mount was in charge of sales and in 1930, he became manager of the Goss New York office. He remained in that capacity until three years ago. He is survived by his wife, a married daughter, and two sons.

**Harry J. Flemming, foreman of the matrix fitting and engraving department of American Type Founders, Inc., has completed 53 years of service with that firm. Starting at the age of 12, he badgered his father into letting him work during vacation breaking type. He advanced from there to his present position, where his experience makes him one of the most valuable members of the ATF family.**

A news article appeared in the Wednesday, February 2 issue of the St. Louis *Post-Dispatch* to the effect that Charles J. Hentschell, production manager since 1942 and member of the board of directors had been appointed *Post-Dispatch*

business manager. Succeeding Mr. Hentschell as production manager is Alex T. Primm who has been serving as Assistant to Mr. Hentschell. Under Hentschell's supervision, the *Post-Dispatch* erected its mechanical annex building and installed 27 new Wood Press units.

Federated Metals, Div. of American Smelting and Refining Co., has appointed H. L. Smith to the newly created position of Executive Technical Engineer, it was announced recently by A. M. Callis, General Sales Manager. Smith, an active field metallurgist for the past 10 years, will be assisted by a staff of service engineers and foundry technicians. He has been associated with Federal for 25 years, starting as a chemist in the Pittsburgh plant. In addition to lecturing before many metalworking and technical organizations, Smith has prepared a number of papers for the technical trade press.

**Celebrating a half century of service with Hammond Machinery Builders, Inc. is Henry J. Kingsbury, Chief Engineer. Though entering a partial retirement status made possible by his 50 years with the company, he will continue on an active basis in Hammond's engineering, research and development work.**

William M. Kelly, inventor of the Kelly flatbed cylinder press, and former head of the Kelly Div. of ATF, Inc., died January 10 after an illness of several weeks. He began his career in printing in the West and joined ATF in 1895. In 1905 he started a round-the-world trip, selling ATF type and printing supplies in Europe, Africa, Asia and Australia. Kelly built his first press in 1914 at Jersey City, N. J. for ATF. In 1924 a plant was erected in Elizabeth, N. J., and the Kelly Press Div. was established. This factory is now the main works of ATF and houses its general offices. Until his retirement in 1934, Kelly continued to work on improvements and developments of the company's high-speed presses of various types.

It was announced recently that Millard L. Friday, jr., has joined the sales staff of the E. W. Blatchford Co. After graduating from high school, Friday enlisted in the Marine Corps at the age of 17 and received his boot training at Paris Island, N. C. He also attended Sea School, San Diego, Calif. Assigned to the light cruiser, USS Springfield, he was appointed orderly on the Admiral's Staff. During two years of active sea duty

**Millard L. Friday, jr., recently joined sales staff of the E. W. Blatchford Co.**

in the Pacific, he was at posts on Guam, Saipan and Hawaii. Friday's other stations included Long Beach, Calif. and Brooklyn, N. Y. He was discharged in November 1948 as Corporal. His father has been associated with the E. W. Blatchford Co. for the past 28 years, and at present is Sales Manager of the New York offices.

Syntron Company has announced the establishment of several new district sales offices and promotions of sales personnel. W. C. Leasure of the Company's general offices in Homer City, Pa., has been promoted to district sales manager in charge of the new sales office in Houston, Texas. Nelson C. DeVilling, formerly of the Pittsburgh sales office, is now district sales manager of the new sales office in Dallas, Texas. Dick McHale of the Company's Chicago office has been promoted to district sales manager of the Los Angeles office. James B. Barth replaces DeVilling on the staff of the Pittsburgh sales force and G. R. Stocum is taking over McHale's duties in the Chicago sales office. D. E. Nugent

**Clarence Mann (left), Minneapolis, Minn., retiring Chairman of Board of Directors, and James E. Whiting, Rochester, Minn., newly elected President, Graphic Arts Industry, Inc. Both men are Trustees of Graphic Arts Educational Foundation, Inc., which owns and operates Graphic Arts Technical School, Minneapolis. Whiting is also President of Whiting Press.**

has been appointed to take over power tools sales in the Kansas City, Mo. office. Syntron also announces the following additions to sales personnel. Mark Chisholm has been appointed district sales manager of the newly established sales office in Des Moines, Iowa. Ernest K. Hood is the district sales manager of a new sales office in Kansas City, Mo. R. K. Bentzien has been added to the Milwaukee, Wis., sales office staff, taking charge of the power tool and paper jogger sales.

## Open Offices in U. S.

Bennett, Coleman & Co. Ltd., Publishers, Bombay, India, recently announced the opening of advertising, editorial and business offices in this country. The firm publishes *The Times*, *Illustrated Weekly*, *Evening News* and *Sunday News* in Bombay. Delhi publications include the *Indian News Chronicle*, *National Call*, *Navyug Illustrated Weekly* (Hindi), *Daily Nav Bharat* (Hindi). Address of the publishing firms is Clartex Corporation, 8106 Empire State Bldg., New York 1, N. Y.

### Safety Posters

THE 1949 Directory of Occupational Safety Posters, prepared by the National Safety Council, is now available. The 72 page directory contains 744 illustrations of two, three and four color posters, classified under 15 sections. An index aids in locating posters on specific accident hazards. Posters range in size from 8½ in. by 11½ in. to 10 ft. by 12 ft. Write National Safety Council, 20 North Wacker Dr., Chicago 6, Ill. for copies. Price 50c.

# Solved Stitcher Problem By Changing Delivery Angle

IN THE bindery of the Capper plant in Topeka, Kans. some trouble was exper.enced with *Capper's Farmer* as it came off the stitcher. This publication is encased in a 50 lb. cover stock. As the bound and trimmed copies came off the Sheridan automatic stitcher and single book trimmer they were delivered to an endless belt delivery that carried them along on a straight line from the trimmer. As one copy was delivered on top of another there was a tendency for each copy to push up the cover on the copy under it. This action "messed up" the covers somewhat.

J. H. Horton, Production Manager, attempted to remedy the trouble by suspending a small fabric bag, containing talc over the conveyor. The idea was that each copy would gently strike the bag, thereby lightly dusting a bit of the talc on the cover of each magazine. This remedied the pushing up of the cover on the copy underneath because the light dusting of talc gave a sliding surface to the cover. But the idea of copies of *Capper's Farmer* with talc-dusted covers didn't go over with the readers. It seemed as if everybody kicked about the powder on the covers despite the fact that it was hardly noticeable. So the idea was discarded.

Finally, Mr. Horton came up with a solution to the trouble that eliminated the difficulty. He changed the ang e of the delivery belt so that copies come off of the trimmer and are pushed out on the endless belt of the delivery table which is at right angles to the trimmer. A stop was installed to stop each issue as it is pushed out from the trimmer. This stop checks the straight ahead movement of the copy while the endless belt running at right angles to the trimmer carries it away. As a result each copy falls on another copy beneath it but does not continue to push toward the stitched side of the magazine. The pushing up of the covers has been eliminated.

Besides eliminating this trouble, relocation of the delivery table has economized floor space in the bindery since the delivery table now runs parallel to the st'tching mechanism.

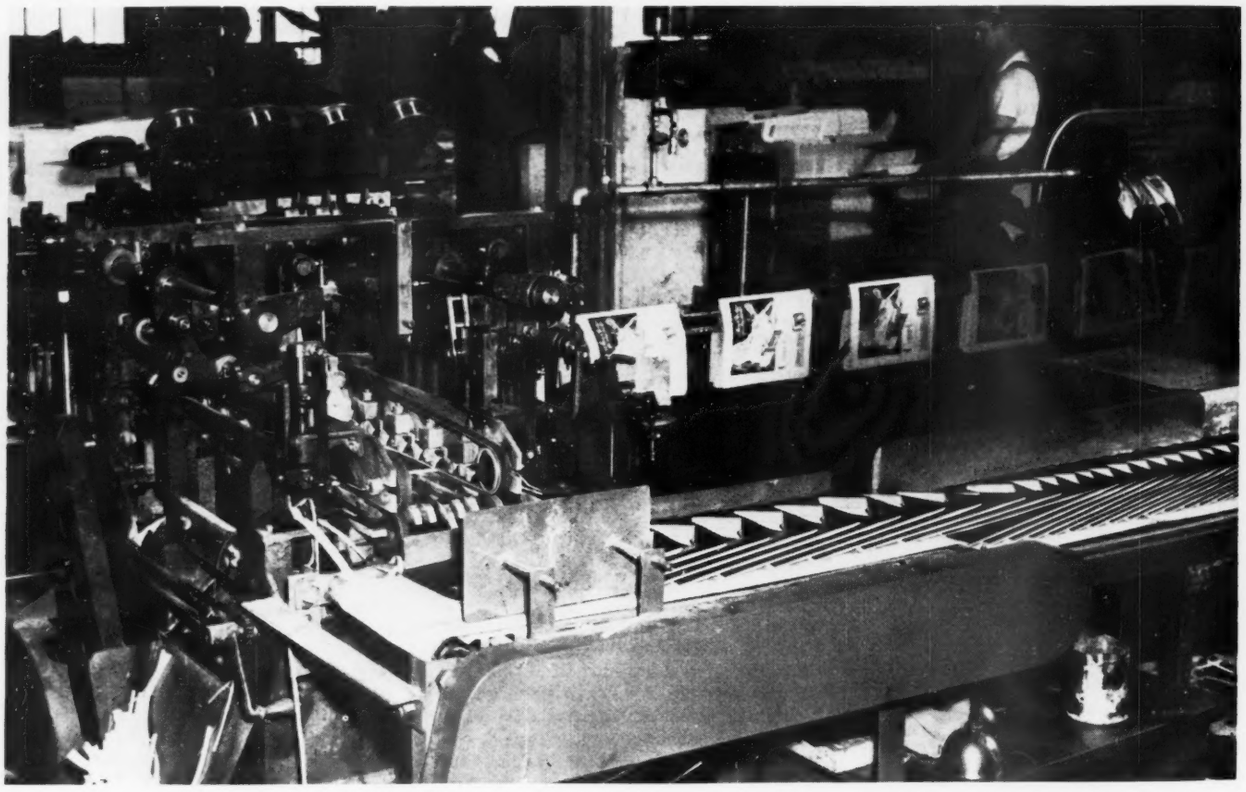


Photo by Clyde Hostter

**To prevent "bulging" of covers on *Capper's Farmer*, Production Manager J. H. Horton changed angle of delivery belt so that when copies come off the Sheridan automatic stitcher and single book trimmer they drop onto the endless belt of the delivery table which is now set at right angles to the trimmer. Change of direction to eliminate the trouble was accomplished by positioning the delivery table at right angles to the trimmer as stated and by installing a vertical stop plate against which the publications strike.**

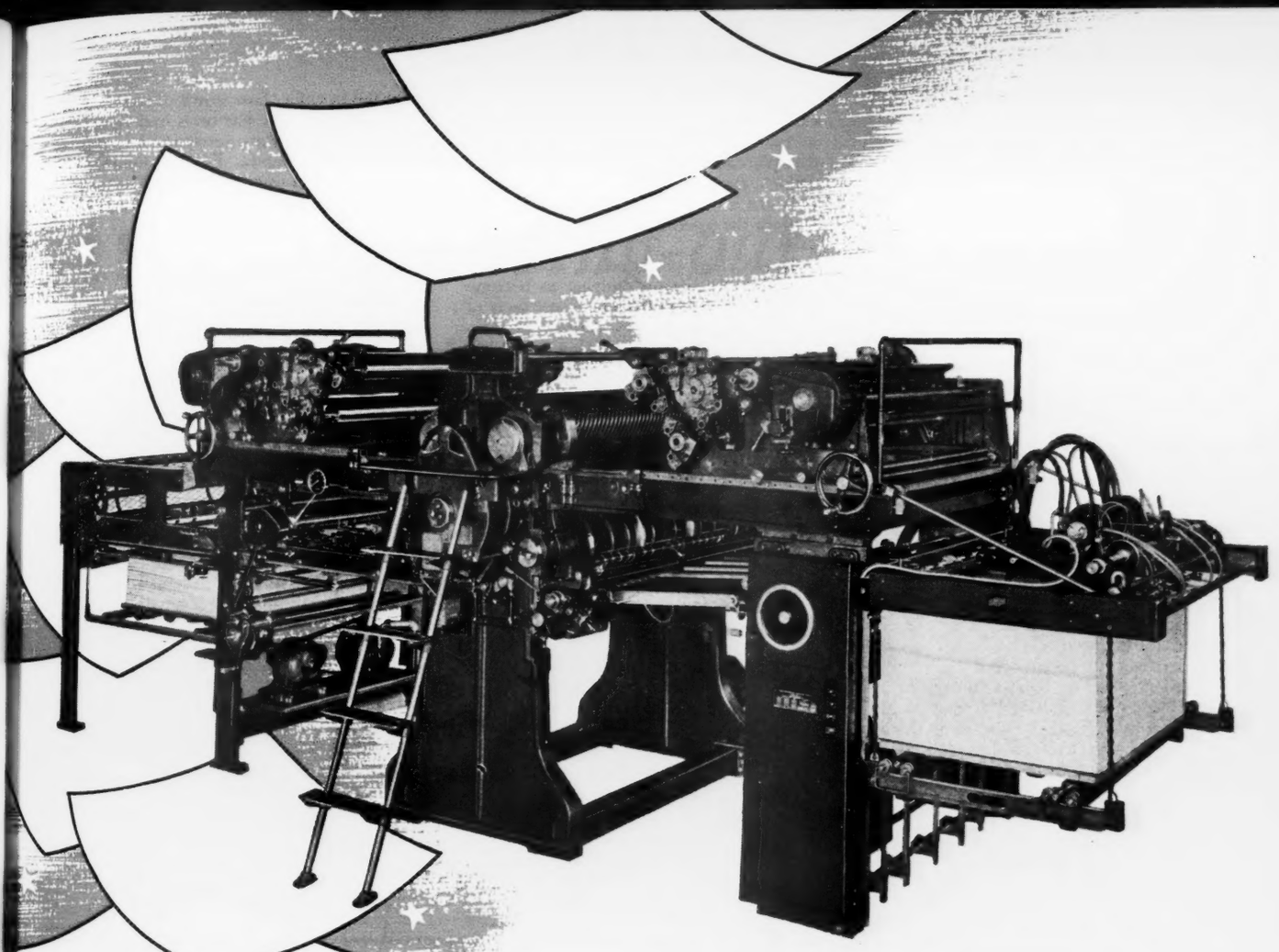
## Gannett Pension Plan Retires 22 Workers

Twenty-two veteran employes of the Portland (Me.) *Sunday Telegram*, *Press Herald* and *Evening Express* have been retired as the Guy Gannett Publishing Co.'s pension plan became effective January 1. Two others were retired February 1. The group represents nine departments of the three papers and a total newspaper experience of more than 727 years.

Seniors in length of service are Charles B. Johnson, Pressroom Supt., and Henry G. Jones, Composing Room Supt., both of whom have served the papers for more than 50 years.

## Estimating Production Guide

A guide for Estimating Production of Machine and Hand Composition and Makeup has been issued by the Trade Customs and Practices Committee of the International Typographic Composition Association. The guide represents the conclusions of the Committee, based on such records and other information as were available plus a consensus when accurate data were not available. It is prepared as a source of information only and it is intended to be used for estimating purposes by ITCA members who have no data covering the time required to perform production operations in their own plants. It is not intended to be used as a means of establishing any form of price control, its purpose being to set up production standards for the trade. The guide is being distributed to ITCA members only, although copies will be furnished to non-members who write to ITCA Headquarters, 1015 Chestnut St., Philadelphia 7, Pa.



# TWO COLOR PRINTING ... AT ITS BEST!

This Cottrell sheet-fed rotary press is outstanding in the field of two color printing It prints at speeds of up to 5500 sheets per hour in two colors. Printers and publishers the world over who are today using this Cottrell two color press, report great satisfaction!

Cottrell

C. B. COTTRELL & SONS CO.

*Westerly, Rhode Island*

New York: 25 E. 26th St. • Claybourn Division: 3713 N. Humboldt Ave., Milwaukee, Wis.
Chicago Daily News Bldg., 400 W. Madison St. • Smyth-Horna, Ltd., 13 Bedford Row, London, W.C.1, Eng

# BOOKS
RECEIVED

*Graphic Arts Procedures*

WITHIN the limits of 372 pages, R. Randolph Karch discusses the fundamentals of the printing industry in *Graphic Arts Procedures*. Intended primarily for the student studying printing in the schools and the apprentice indentured to a trade in this craft, its contents are also directed to the person who wants to know about the Graphic Arts so that he can use and buy printed matter intelligently.

From simple explanations of the printing processes (letterpress, offset, gravure, etc.) in Chapter 1 to a definition of Graphic Arts terms in the 14th and final Chapter, the author touches on every phase of the printing trade by explanation and illustration. Considerable space is devoted to type faces and to planning a printed job. The book tells how to prepare copy, set type, and proofread. How to prepare a form for the press, how to get the press ready to print it, how the paper is selected, and how the printed sheets are bound, is related to the reader as the text is consumed.

Self-tests are provided as a review of each chapter, with questions keyed to the text pages. Projects are listed for those who are learning the Graphic Arts in schools and colleges. One chapter is even devoted to the major occupations in the printing field where advantages, disadvantages, wages paid, working conditions, etc. are discussed. Accident hazards are reviewed in the chapters which explain the operations of machinery and tools.

Karch has prepared a noteworthy book for the person desiring to become acquainted with the elementary facts of printing. He has, however, devoted nearly one-half of the information found between its covers to type faces and the setting of type. We believe this unbalanced ratio draws away importance from the other phases of the Graphic Arts. In other words, presswork, printing plates, etc. should be treated more liberally. Each process is dependent upon the other and each requires ample explanatory coverage in a book of this type.

*Graphic Arts Procedures*—By R. Randolph Karch contains 372 pages and measures 5½ in. by 8½ in. Aqua cloth cover is stamped in black. Over 220 charts and illustrations. Printed by offset-lith with the exception of two pages, which were printed by letterpress. List price is $3.75, available from American Technical Society, Drexel Ave. at 58th St., Chicago 37, Ill.

### Newspaper Press Blanket

NEW England Newspaper Supply Co. has announced what it calls Regal Monocork newspaper press blanket or underpacking. It is Burgundy wine red in color. Executives of company state that its utility has been undergoing tests in metropolitan newspapers in this country and Canada. Further information may be obtained from New England Newspaper Supply Co. direct or through *Printing Equipment Engineer*.

### Carnegie Scholarship

THE Department of Printing Administration of the Carnegie Institute of Technology has announced 11 scholarships for students studying printing and also a six weeks summer session. The scholarships, varying from one-half to full tuition, are available to both undergraduate and graduate students in the department. Donors include Mergenthaler Linotype Co., Judd and Detweiler, Inc., U. S. News Publishing Corp., Bureau of Nat'l. Affairs, Thomas P. Henry Co., W. F. Hall Printing Co., Chicago Rotoprint Co., Printing Industries of Philadelphia, Inc., Int'l. Assoc. of Printing House Craftsmen, Porte Publishing Co., Herbick & Held Printing Co., and alumni and friends of the Carnegie Department of Printing Administration.

The summer session, extending from June 24 to August 6, will include such subjects as Hand Composition, Typography, Machine Composition, Presswork, and Photolithography. In addition, Estimating, Introduction to Accounting and Cost Finding, Printing Plant Management, Layout and Design, and Advertising Production will appear on the schedule.


*Planning*

**New Printing Plant . . .**

**So You Can Work Intelligently With Architect-Engineer**

● A 16 page booklet reprinted from the December issue of *Printing Equipment Engineer* especially for the executive who is building a plant or revamping his present facilities. Featured are two color plant diagrams, fundamentals of plant layout, use of templates in making scale plant layouts, value of rolling tables, selecting the site, locating equipment, working space between equipment items, color, light, ventilation—to mention but few of the highlights incorporated in this article.

**$1 per Copy**
**Cash with Order**

**PRINTING EQUIPMENT *Engineer***
**1276 West Third Street Cleveland 13, Ohio**

MANUAL *of* STEREOTYPING

*by JOSEPH D. GOGGIN*

In this book, the author discusses the three primary factors in stereotyping—equipment, materials and manipulation. Since the stereotyping process largely is an Art and the results to be obtained in good plate-making are dependent upon the coordination of equipment, materials and manipulation, a reliable guide for securing this coordination is essential.

In preparing this book, the author has drawn upon his extensive practical experience and study in the Art. The all-important preparation of the form from which the mold is to be made and the molding and casting procedures are thoroughly discussed from the standpoint of the peculiar requirements of the process.

A Glossary and Encyclopedia gives definitions of terms used in the stereotype process. Bound in black cloth, gold stamped, 256 pages, size 5½ in. by 8 in. Price, $5, cash with order. Handling margin makes it necessary that cash accompany all orders for books.

**PRINTING EQUIPMENT *Engineer***
**1276 WEST THIRD STREET, CLEVELAND, OHIO**

# LINOTYPE *Swing-out* KEYBOARD

## For Quick, Easy Maintenance

Regular inspection and cleaning are good insurance against untimely production stoppages. And the *exclusive* Linotype swing-out keyboard encourages proper attention . . . proper preventive maintenance . . . because it makes proper care easy.

The keyboard swings out to make every part of the mechanism easily accessible. Cams lift out without tools. Each rubber roll shaft is released by loosening a single screw. The key bars come free as a unit.

Such design advantages make Linotype easy to maintain . . . easy to keep in prime operating condition. They mean less time out for maintenance, better care, more production—and lower over-all composition cost. Ask your Linotype representative to point out other Linotype economies to you.

MERGENTHALER LINOTYPE COMPANY, *Brooklyn 5, N.Y.*



**8-SECONDS**

is all the time it takes to swing out the Linotype keyboard. Fifteen seconds and it's as accessible as if it were on the work bench. Smooth-running keyboards are the first step toward steady production. Only Linotype has the Swing-out Keyboard.

*Set in members of the Linotype Caledonia, Spartan and Granjon Families*

## Great Lakes Conference

(Continued from Page 46)

over the plate with a minimum of muss and fuss. Incidentally, too, etching rooms are cooler than where an open stove is used for burning-in purposes.

In discussing the Chemco Whirler, the scrubbed plate is placed on the turntable, the enamel is flowed on and after several revolutions of the turntable the plate and holder are caused to turn over and under in an inverted position to continue the whirling and drying operation.

The Controlled Temperature Dark Room Sink uses the flowing water method of control. The tap water is reduced to proper processing temperature by flowing through a stream regulator, a counter-flow heat exchanger, into a heater-cooler combination, past a thermostat and finally into the processing pan at a fixed rate of 40 gal. per hr.

Walter Scott, President, Advertisers Engraving Co., Cincinnati, discussed *Color Process Printing*. After reviewing photoengraving progress over a long period of years with respect to highlight halftones and hard edges in particular, he told about Photoengravers' Research, Inc. Colorimeter which is being used mainly at the present time by commercial photoengravers. He thinks newspaper heads would do well to become associated with Photoengravers' Research because they will get a return in improved photoengraving techniques over the years.

Mr. Scott next exhibited a proof of the same halftone subject on enamel paper. Proof of one plate was rather flat and the second proof was taken from the same plate after re-etching. He stated that on the plate which had been re-etched, the plate itself had been put back in the bath and re-etched for ½ min. to reduce the highlight dots. He advocated, wherever the time element permits, that all plates containing highlight dots and made on cold top enamel must be re-etched if at all possible. If there are highlights in the plate, the negative should be made flat so as to permit re-etching for the highlight areas. This operation will clean up the walls of the highlight dot and facilitate matters when the stereotyper removes the mat from the form. Re-etching also improves the quality of the halftone.

### Suggests 3-Color Process

He stated the newspaper printing industry, so far as color printing is concerned, is still in its infancy as it is going through a period of experimentation. He advised starting out with three-color plates rather than trying to use four-color process. If a paper is at present using 65 line screen, he suggested gradually working up to the use of 70, 75 or 80 line screen. In using the three-color process method, the black plate is eliminated and consequently, a great deal of trouble also is eliminated. When three-color process plates are used, stronger inks are used. In contrast with the four-color process yellow, the yellow in the three-color process plate is much stronger, and likewise the red and blue are much stronger in tinctorial strength. The result is a more brilliant effect. Three-color process plates in newspaper printing show much more life. He advised experimenting with three-color process plates by printing on the tail-end of regular newspaper runs. In addition, Mr. Scott asserted that three-color process advertisements or editorial subjects can be reproduced more economically.

### Color Here to Stay

Henry Arbogast, Photoengraving Supt., Milwaukee *Journal*, delivered a paper upon color work as employed in his plant. He reviewed the paper's first attempts at color work and some of the features and methods employed in preparing copy before it is sent to the photoengraving department. He asserted that color, like television, is here to stay.

Mr Arbogast prefers dye prints from which to work because they permit color correction. He exhibited a number of color pages, one reproduced from a carbro print and one from a one-shot 4 x 5 camera, one from a color drawing and one reproduced from three color transparencies. After viewing the color pages reproduced by different mediums, everybody seemed to agree that Mr. Arbogast has the color engraving technique well in hand.

Someone asked Joe McMullen, Pressroom Supt., Milwaukee *Journal*, what he did when the color of the newsprint was inclined to be yellow? Mr. McMullen stated that all of the inks used in the Milwaukee *Journal* are overstrength and they are mixed previous to the press run to suit the job. He feels it is entirely a matter of judgement upon the part of the pressroom.

Alex T. Primm, Asst. Production Mgr. of the St. Louis *Post-Dispatch*, stated that in his plant, time and money is saved by laying down the black first on the press so as to obtain better color register.

Mr. McMullen took exception to this method by stating that in wet color printing, if black is laid down first, the pressman will have trouble with bleeding of the black into the lighter colored areas.

Blanchard Wilson, Stereotype Supt., Cleveland *News*, wanted to know if actual packages, dresses, etc., which are illustrated in color advertisements are brought to the Milwaukee *Journal* photoengraving and pressroom departments so as to simulate the colors as nearly as possible in the advertisement? Mr. Abrogast stated that when the *Journal* first started printing color advertisements, this practice was followed. The practice, however, has been abandoned for some time because the art directors of stores and advertising agencies now OK color copy before sending it to the newspapers, and it is only necessary to match the colors in the original art copy to obtain as nearly exact reproduction of color hues as possible in the advertisements.

In reply to a query, Mr. McMullen stated he had run papers containing color advertisements as speeds over 50,000 per hr.

### Re-etching and H. L. Halftones

W. F. Alexander, Photoengraving Supt., Cleveland *Press*, previously had distributed four-page sections of the *Press* printed on regular newsprint showing first and second impression printing of the same subjects. The effect was startling and during discussion about the demonstration, it was revealed that some very fine team work had occurred between Mr. Alexander and George Fuller, both of the Cleveland *Press*, with respect to showing what could be done in engraving and stereotyping large re-etched halftone areas and what in effect was the equivalent of a number of highlighted halftones on a society page previously printed in the *Press*.

The four-page demonstration section was intended to show the improvement which could be made on 65 line newspaper halftones by re-etching the halftone plates. This particular 65 line screen halftone subject shown both before and after re-etching consisted of a bird's eye view of the business section of Cleveland in half-page size printed both on first and second impression sides of the sheet.

(Continued on Page 66)

### EXHAUSTS 80,000 CU. FT. OF AIR PER MIN.

(Abstracted from address: *St. Louis* Post-Dispatch's *New Plant*, delivered by Alex T. Primm, now Production Mgr., before Great Lakes Newspaper Mechanical Conference, Cincinnati, January 17, 1949.)

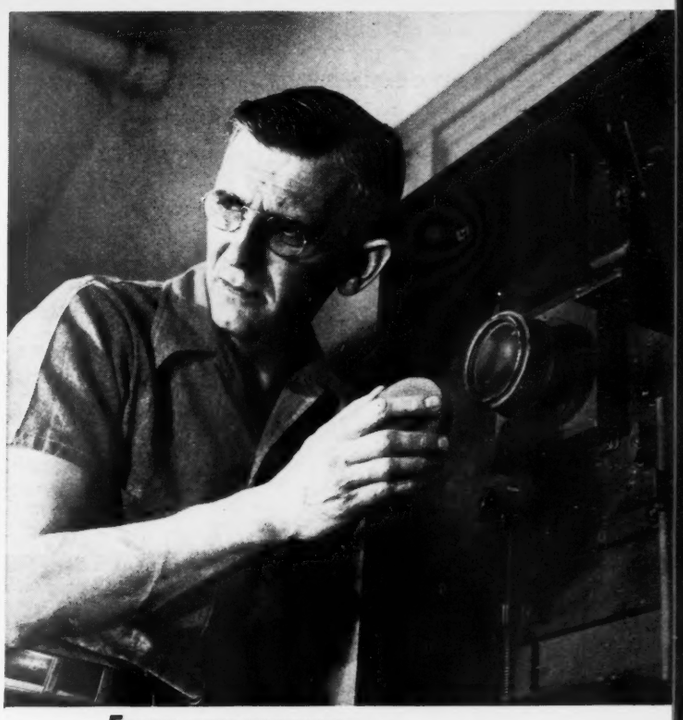
**ON THE third floor of our new building we have an over-all ceiling height of 13 ft. This is considerably lower than the men had been used to in the old building where the ceiling heights ranged from 20 ft. to 25 ft. Despite most careful planning we have found that we have had to increase materially our facilities for exhausting air to overcome smoke that gets into the room, even though we have carefully hooded machines and pots through which we exhaust hot air in the summer time. Original plans called for us to exhaust 11,800 cu. ft. per min., but by next summer we will be able to exhaust 80,000 cu. ft. per min. This will bring about a complete change of air every 2½ min. in both rooms. It is good business, of course, for us to keep the men as comfortable as possible and once more original plans have had to be changed in order to serve a real need.**

# *There is a Kodak Graphic Arts Film for every Camera Department Need*

Whether your shop does display and poster work primarily or concentrates on full-color direct mail pieces and booklets, there is a Kodalith, Kodaline, or Kodak Graphic Arts film designed for your needs.

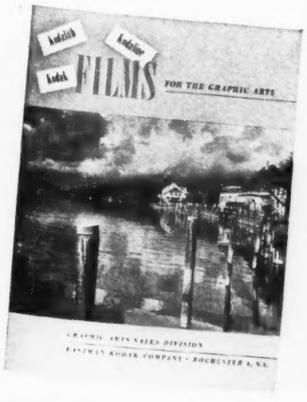
You can get any of these films, available in a wide variety of cut-sheet sizes—from 5 inches x 7 inches to 30 inches x 40 inches—and roll sizes—from 50 feet x 6 inches to 100 feet x 48 inches—from your nearest Kodak Graphic Arts dealer. Uniform dependability of both the photographic and the physical properties of these films—today, tomorrow, and next year—helps provide the basis for profit-building standardization.

See your Kodak Graphic Arts dealer today, or write to Rochester requesting a demonstration in your shop under production conditions.

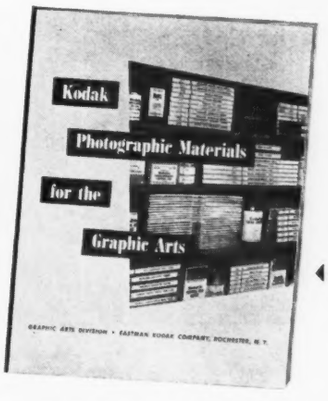


*From cameraman—*

*to dot-etcher.*




**BOOKLET H1-1, "Kodalith, Kodaline, and Kodak Films for the Graphic Arts."**




**BOOKLET H1-6, "Kodak Photographic Materials for the Graphic Arts."**

*More Detailed Information For You . . .*

***FREE FOR THE ASKING***

**Here are two booklets which describe Kodak products for the Graphic Arts in detail. For your free copy of either one, or both, of these booklets, send your name and address on a penny postcard to the Advertising Department, Eastman Kodak Company, Rochester 4, N. Y.**

*Graphic Arts Division*

**EASTMAN KODAK COMPANY, ROCHESTER 4, N. Y.**

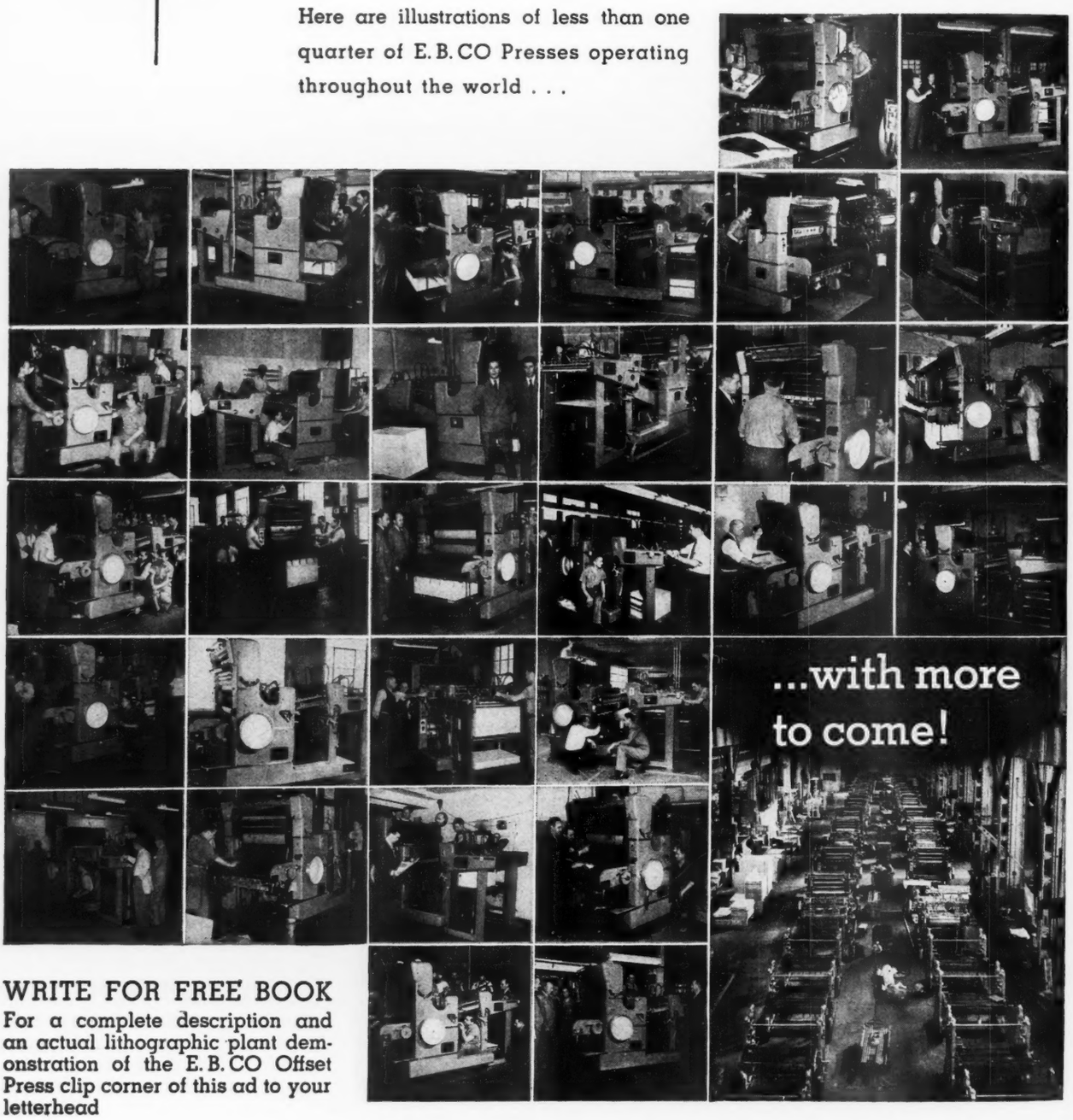
"KODAK" IS A TRADE-MARK

Kodak

E·B·CO

# Registers with Lithographers Everywhere

Here are illustrations of less than one quarter of E. B. CO Presses operating throughout the world . . .




## WRITE FOR FREE BOOK

For a complete description and an actual lithographic plant demonstration of the E. B. CO Offset Press clip corner of this ad to your letterhead

E·B·CO

**PRINTING MACHINERY DIVISION—ELECTRIC BOAT COMPANY**
445 PARK AVENUE, NEW YORK 22, NEW YORK
400 WEST MADISON STREET, CHICAGO 6, ILLINOIS
RUSS BUILDING, SAN FRANCISCO 4, CALIFORNIA

## Conference Dates (*with organization names and principal officers*)

**American Photo-Engravers Association** — 1949 convention to be held in San Francisco, date and meeting place to be announced later. Frank J. Schreiber, Commissioner, 166 W. Van Buren St., Chicago 4, Ill.

**ANPA Mechanical Conference**—Palmer House, Chicago, Monday, Tuesday and Wednesday, June 6, 7 and 8, 1949. Chairman of the Committee, Edwin H. Evers, Production Manager, St. Louis *Globe-Democrat*. Acting Manager ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

**Great Lakes Newspaper Mechanical Conference**—Hotel Schroeder, Milwaukee, January 15, 16, 17, 1950. President W. R. Coddington, Composing Room Supt., Youngstown (O.) *Vindicator;* Secretary Al. P. Oberg, Flint (Mich.) *Journal;* Arrangement Chairman J. E. McMullen, Pressroom Supt., Milwaukee *Journal;* Chairman Mfrs. and Suppliers Committee, George Morrison, Morrison Co., 125 W. Melvina St., Milwaukee 12, Wis.

**Illinois Newspaper Mechanical Conference** —1949 conference to be held in Danville, Ill., dates to be announced later. President, John Orlebeke, Danville (Ill.) *Commercial-News;* Secretary-Treasurer, Wilbur Augspurger, Peoria (Ill.) Newspapers, Inc.

**International Association of Printing House Craftsmen** —1949 Convention to be held in San Francisco, Palace Hotel, September 4, 5, 6, 7, 1949. President, Gradie Oakes, Process Color Plate Co., 522 So. Clinton St., Chicago 7. Executive Secretary, Pearl E. Oldt, 18 E. Fourth St., Cincinnati 2, Ohio.

**International Typographic Composition Association**—1949 Convention to be held at Hotel Statler, Boston, Mass., September 22, 23 and 24. Frederick H. Lutz, President, Brockton, Mass.; Frank M. Sherman, Executive Secretary, 1015 Chestnut St., Philadelphia 7, Pa.

**Iowa Daily Newspaper Mechanical Conference**— 1949 conference will be held in Mason City, Ia. Hotel and dates to be announced later. President, Ken I. Waughtal, Kayenay Engraving Co., Mason City, Ia.; Secretary, Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald*.

**Kansas Newspaper Mechanical Conference** —1949 meeting to be held at Hotel Kansan, Topeka, Kan., October 1 and 2. President Vern Williams, Mechanical Supt., Topeka Newspaper Printing Co., Topeka, Kan.

**Lithographers National Association** — 1949 Convention to be held at Mission Inn, Riverside, Calif., May 8 to May 14. W. Floyd Maxwell, Executive Director, 420 Lexington Ave., New York 17, N. Y.

**Missouri Newspaper Mechanical Conference** — Hotel Conner, Joplin, Mo., in 1949, exact dates to be announced later. President, Paul S. Ginn, Press Foreman, Sedalia (Mo.) *Democrat-Capital;* Secretary-Treasurer, O. K. Hammitt, Mechanical Supt., Moberly (Mo.) *Monitor-Index*.

**National Association of Litho Clubs** — Mayflower Hotel, Washington, D. C., April 29-30, 1949. President, Albert Tucker, Sauls Lithograph Co., Washington, D. C.; Secretary William J. Stevens, 317 West 45th St., New York 19, N. Y.

**National Association of Photo Lithographers** — 1949 convention will be held at Hotel Statler, New York, N. Y., October 19, 20, 21 and 22. Executive Vice President, Walter E. Soderstrom. 317 West 45th St., New York 19, N. Y.; Executive Secretary, William J. Stevens, 317 West 45th St., New York 19, N. Y.

**National Graphic Arts Education Association** — John G. Henderson, President; Fred J. Hartman, Educational Director, 719 Fifteenth St., N. W., Washington 5, D. C.

**National Graphic Arts Exposition**—International Amphitheatre, Chicago, September 11 to September 23, 1950. National Graphic Arts Exposition, Inc., A. E. Giegengack, President. Fred W. Hoch, Secretary, 461 Eighth Ave., New York 1, N. Y. During the period, September 24 to October 7, 1950, a number of Graphic Arts associations will hold their annual conventions as follows: Intl. Assoc. of Printing House Craftsmen, Hotel Stevens, Sept. 10, 11, 12 and 13, 1950; Intl. Typographic Composition Assoc., Sheraton Hotel, Sept. 14, 15 and 16; Printing Industry of America, Palmer House, Sept. 17, 18, 19 and 20, 1950.

**National Printing Equipment Association, Inc.** — President, R. Verne Mitchell, Harris-Seybold Co., 4510 E. 71st St., Cleveland 5, O. James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

**New England Mechanical Conference** — President, George F. Marshall, Mechanical Supt., Portland (Me.) *Press-Herald-Express*. Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

**Northwest Mechanical Conference** — Hotel Radisson, Minneapolis, Minn., February 12, 13, 14, 1949. President, Chas. R. McGuire, Mechanical Supt., Minneapolis (Minn.) *Star* and *Tribune;* Secretary-Treasurer, Vernon G. Eck, 3725 Forth-eighth Ave., So., Minneapolis 6, Minn.

**Pacific Mechanical Conference** — Roosevelt Hotel, Hollywood, Calif., May 20, 21, 22, 1949. President, Harold Winn, Hollywood *Citizen-News;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles, *Daily News*.

**Pacific Society of Printing House Craftsmen** — Blair Lord, Secretary-Treasurer, 3650 Fairmount Blvd., Riverside, Calif.

**PNPA-NJPA Joint Mechanical Conference** — Penn Harris Hotel, Harrisburg, Pa., April 1 and 2, 1949. Paul V. Driscoll, Mechanical Supt., Connellsville (Pa.) *Courier*, Chairman of the PNPA Mechanical Committee is in charge of the arrangements. Thus the states of Pennsylvania and New Jersey will be represented by one conference; executives from Delaware and Maryland (which states have no conference) are also invited to participate in the joint meeting in Harrisburg.

**Printing Industry of America** — Hotel Biltmore, Los Angeles, November 14-17, 1949. James R. Brackett, General Manager, 719 Fifteenth St. N. W., Washington, D. C.

**SNPA (Eastern Div.) Mechanical Conference**—Chairman, Luther Wright, Mechanical Supt., New Orleans (La.) *Item;* Secretary, Tom Tanner, c-o SNPA, P.O. Box 1569, Chattanooga 1, Tenn.; Chairman of Supply and Equipment Group, Owen W. Asbell, Ludlow Typograph Co., representative in Atlanta, Ga.

**SNPA (Western Div.) Mechanical Conference**—Mayo Hotel, Tulsa, Okla., February 21 and 22, 1949. W. J. Dowell, Head Machinist, Newspaper Printing Corp., Tulsa, is General Chairman. C. W. Tabb, SNPA Executive Committee, 723 Texas Bank Bldg., Dallas, Tex., is Secretary. Chairman of the Supply Men's Committee is Don Malcolm, Dallas Representative, Burgess Cellulos Co., Freeport, Ill.

## Great Lakes Conference

(Continued from Page 62)

The other demonstration consisted of a society page which had appeared in the Cleveland *Press*. Mr. Alexander stated it is not possible to use the fluorescence process in connection with photographs, but that a highlighted effect can be obtained through the use of a combination of two negatives—that is, regular straight shots of the photo. In one of the pictures the highlights had been dropped out in the fence, lampost, dormer windows and to the main entrance of a cottage by the masking process. Through this demonstration, Mr. Alexander proved that engravings for newspaper use should be made according to the peculiar requirements of the newspaper printing process.

After Mr. Alexander had explained the highlighting (masking) process and the re-etching process used in reproducing these halftones, George Fuller, Stereotype Supt., Cleveland *Press*, was asked to explain the technique used in molding the mats. He stated that while the mats were molded by direct pressure, the mat itself really is what might be called a semi-baked mat. It is left for 3 min. under pressure in the molding machine. Mr. Fuller explained that molding under these conditions permitted the highlight areas to set well and permitted excellent depth when the mats do shrink. He explained that approximately ½ in. shrinkage was obtained by this method of molding which is near enough to the *Press's* regular shrinkage for news pages.

In reply to a question by L. J. Griner, Production Mgr. of the Detroit *News*, Mr. Fuller explained the mats for these special pages were not direct-pressure baked mats and that instead of the 12 min. pressure time, the mat and form are permitted to remain under pressure for 3 min. only.

### Halftone Dot Sizes

Someone wanted to know if the photoengraver should make the same halftone dot for direct-pressure as for roller molding in the stereotype department. Mr. Alexander said that a finer halftone dot is required for direct pressure. Mr. Arbogast, asserted the direct-pressure molding method reproduces engravings just about as the photoengraver makes them.

In answer to the question, "*Why can't engravers make flat round dots in the highlight area that would make for easier stereotyping?*" Arbogast stated the engraver can make such dots in the plate but the stereotyper wouldn't get the printing quality in the plate. Mr. Alexander asserted that the larger the highlight dot the less quality appears in the engraving. He recommends a highlight pinpoint dot in newspaper halftone work.

### Underlaying Plates

The question of underlaying plates on the press arose. Joe McMullen Pressroom Supt., Milwaukee *Journal*, states he underlays cut areas from 0.003 in. to 0.004 in. In setting the impression between the blanket and plate cylinders, it is adjusted so that the body type will print properly; then the halftone areas in plates are underlayed to get extra impression. He stated, however, that not all of the plates are underlaied by any means.

## *Composing Room*

THE concluding session of the Conference was held on the afternoon of January 18 and included talks and discussions on problems dealing with the Composing Room. W. R. Coddington, Composing Room Supt. Youngstown (O.) *Vindicator*, presided over the group as Chairman, assisted by Ed Griesmeyer, Composing Room Supt., Cincinnati *Enquirer*.

Opening speaker on the program was Robert E. O'Dowd, Retail Advertising Manager, Cincinnati *Enquirer*, who discussed *What Can the Composing Room do to Aid the Advertising Department?* He called for better reproduction in newspaper ads especially from halftones to combine with improved makeup of the newspaper page. Emphasizing the importance of clean cuts, the speaker went on to ask composing room superintendents to see that these cuts are cleaned after proofs have been pulled. Reset the small ads which are run over and over again, instead of letting the type faces become worn to the point of poor reproduction.

Progress, he continued, was slow in the development of new type faces to take the place of or supplement faces which are currently used in display ads. Pull proofs on paper that is large enough in size to enable corrections to be made clearly and distinctly in the margins. Endeavor to have the cuts in the form whenever possible in pulling proofs which are to be sent to the advertiser for his OK. First, second and revised proofs should be kept separated to avoid confusion in either department. More care and attention should be given cuts and mats which are to be returned. O'Dowd asked the composing room for consideration in emergency or last minute changes in ads. Keep department schedules flexible enough to permit such changes which, he asserted, are sometimes unavoidable.

### Deadline for Ad Copy

The speaker was asked by James F. Braddock, Windsor (Ont.) *Daily Star*, if his paper had a deadline on advertising copy. The answer was in the affirmative and O'Dowd explained that the *Enquirer* requires all plates to be in by 6 p.m. before the day of publication for the daily editions, and by 6 p.m. on Friday for a Sunday issue. A newspaper can't expect to have increased circulation without adjusting its deadlines in order to avoid doing sloppy work in the composing room.

He said advertisers today expect the full value of each dollar they spend in advertising their product or service. The days when errors in composition, broken letters and other flaws in advertisements were condoned have gone forever. Advertising lineage and circulation have increased. Newspapers today, have competition from numerous sources. They have to sell and do it quickly, hence the advertiser calls for results from his investment.

### Cooperation Needed

O'Dowd indicated he believes strongly in cooperation between the composing room and the advertising department. He thought perhaps the mechanical groups might be in need of a public relations department to educate those who deal with them in their problems and show ways in which the problems might be corrected.

Better layouts are needed to aid the printer in interpreting what the advertiser is calling for. Sloppy work and inadequate instructions too often leave the compositor in doubt and create confusion, more work, and in some instances, loss of the account. In reply to a question from the floor by Leon Link, the speaker told how the Cincinnati paper charges the advertiser extra for authors' revisions after the first proof.

(Continued on Page 74)

### CENTRALIZED OPERATIONS ADVANTAGEOUS

(Abstracted from address: *The St. Louis* Post-Dispatch's *New Plant*, by Alex T. Primm, now Production Manager, at Great Lakes Newspaper Mechanical Conference, Cincinnati, January 17, 1949.)

**THE entire operation of the stereotype department is located on the third floor (of the new building). We have found this arrangement to be vastly superior to our former arrangement which provided for the molding on one floor, the casting in the basement, and the job shop on still another floor.**

**The advantage in having the stereotype department all on one floor is that we no longer have our stereotypers scattered over the entire building. Men do not spend valuable time riding the elevator from the job shop to man an extra casting box. Furthermore, it is possible now to use the regular casting box crews on job and color work between editions. This arrangement speaks for itself.**

# COMPARE! for cleaner impressions with less wear it's

**TINGUE**
TRADE MARK
PRINTING PRESS BLANKETS

## TINGUE DRAWSHEETS

### TOP

This drawsheet is firm, durable, economical and long-lived.

### IMPROVED SATISFACTION

Coated with "Calvaprene" by du Pont on a fabric which has been impregnated with "Neoprene."

### GOLD TYMPAN CLOTH

An old favorite for flatbed presses. Skivered metallic surface accepts excess ink and flakes it off without smudging.

## TINGUE COATED BLANKETS

### TINGUE FELT

Available in your gauge and size with synthetic rubber coating.

### COMBINO

A synthetic, laminated top blanket, extremely durable and a clean printer.

*Reg. U. S. Pat. Office

## TINGUE UNDERBLANKETS

### CUSHION CORK BLANKETS*

Highly resilent and recommended as the underpacking for "Combino" and Tingue coated Felt or in combination with Foundation Blanket where a drawsheet is used.

### FOUNDATION BLANKET

A firm durable oilproof underpacking laminated by du Pont with "Neoprene" for use in combination with "Cushion Cork" and Tingue Drawsheets or Felt.

**TINGUE BROWN AND COMPANY**

114-120 EAST 23rd STREET, NEW YORK 10, N Y
1227 WABASH AVENUE, CHICAGO 5, ILLINOIS
723 E WASHINGTON BLVD, LOS ANGELES 21, CAL
507 BISHOP STREET, N W, ATLANTA, GEORGIA
CANADIAN SALES AGENTS
ROSS WHITEHEAD & CO., LTD.
MONTREAL, CANADA

# Patents

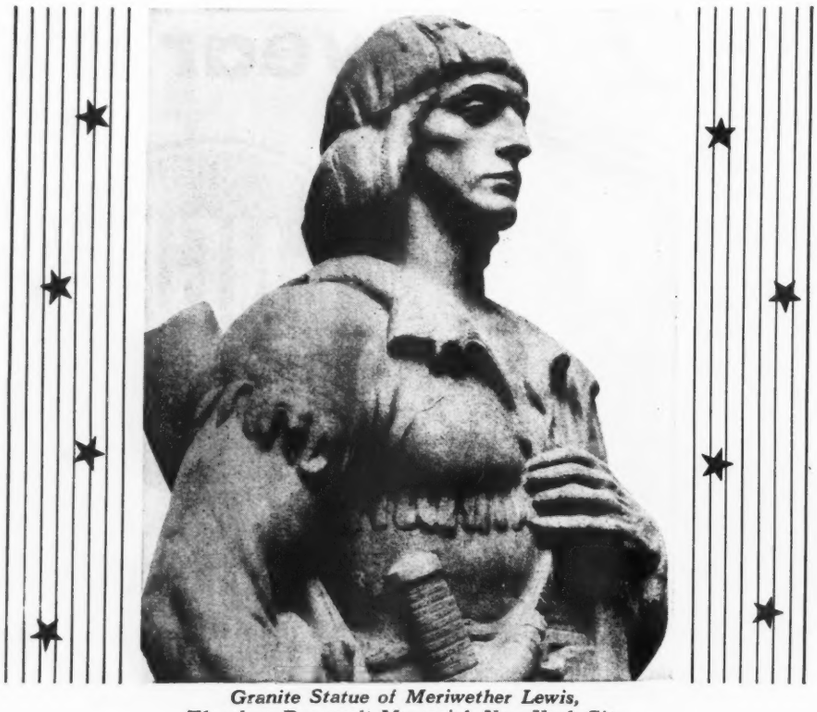
## For The GRAPHIC ARTS

Covering patents issued November 23, November 30, December 7 and December 14.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

### Binding, Cutting, Perforation

2,455,971. BOOKBINDING APPARATUS and method features a continuous machine process in which single sheets rather than signatures can be bound. This obviates sewing the various signatures. However, the method can be used also for signatures. The apparatus uses a cylinder on which a clamp for holding a stack of sheets or signatures to be bound extends throughout the length of the cylinder. A backing plate is joined to the cylinder flush with its periphery but extending at a tangent from same. A pressure roller, parallel to but spaced from cylinder, is displaced toward the cylinder for pressing a stack of sheets toward the backing plate. This bends the sheets and fans their edges so that glue is applied to each sheet to a depth two or three times the thickness of the sheet when the complete unit, including the cylinder, its clamp, stack of sheets and pressure roll, is moved over a glue applicator. Book may be bound in the usual manner by applying crash book lining and head bands and inserting the book into a premade casing or cover. Invented by James F. Bosch, Wappingers Falls, N. Y. Unassigned. Application November 4, 1947. 5 claims.

*Granite Statue of Meriwether Lewis, Theodore Roosevelt Memorial, New York City*

# FAMOUS PIONEERS

AMONG THOSE who helped to carve our present America out of the wilderness, no name shines brighter than that of MERIWETHER LEWIS . . . valiant leader of the famed LEWIS AND CLARK expedition.

The courage and spirit of this man who guided his small group across uncharted wilds... through forests and over mountains to the Pacific coast... is symbolic of American perseverance and enterprise.

Today, this pioneering spirit still lives. It lives in the free thinking, free speaking people who insist on maintaining the America which our pioneers developed.

It lives in our progressive, alert and loyal American industry... and in the men and management who uphold our standards of fair play and justice for all.

**ATLANTIC ZINC WORKS**

***Makers of*** **Zomo Electric Zinc  A-Z Alloy  Zomag (Dowmetal)**

***Developers of***

**Electric Induction Process • Machine-cut Finish • Backote • Facekote • Precision Rolling**


### Composing Room Equipment

2,455,279. LONG OR SHORT LINE ASSEMBLY ELEVATOR STOP. Typographical casting machine stops are embodied with an assembling and casting machine having an assembling elevator and an assembler slide. They comprise a projection on the assembling elevator, a lever swingably mounted adjacent to the assembling elevator and having one swinging end normally interposed to engage the projection and stop movement of the assembling elevator. A second stop means is disposed so as to be contacted by the end of the lever when excessive movement is imparted thereto by a too long line to extend the second stop means to engage the projection. A lug on the assembler slide engages with the opposite end of the swinging lever. The device is for use with "Linotype," "Intertype," or other line casting machines and operates to stop the machine if the assembled matrices and space bands be either too long or too tight, or too loose or too short. It operates to prevent advancing of the long or short line to the casting position, thus protecting the machine and the parts before the assembled matrices have been advanced to a point where damage will likely be done to the matrices and possibly to the machine. Invented by Wilbert J. Swatzell, El Dorado, Ark. Unassigned. Application December 28, 1944. 15 claims.

### Feeding, Folding, and Delivery

2,454,762. METHOD OF FEEDING SHEETS OF PAPER off a stacked supply to a printing press comprises the following steps: (1) Lifting and forwarding the rear edge portion of the topmost sheet far enough to uncover the rear edge portion of the next sheeet sufficiently to be acted upon, this being accomplished by means of suckers; (2) blowing sheet-separating-and-forwarding-air from a first blower under the topmost sheet as its rear edge portion is moved forward to uncover the rear edge of the next sheet; (3) continuing forward motion of the lifted rear edge portion of the topmost sheet and simultaneously lifting and forwarding rear edge of next sheet; and (4) simultaneously blowing air from a second blower under topmost sheet as forward motion of its rear edge is continued and under next sheet as its rear edge is forwarded to uncover rear edge portion of following sheeet. Invented by Frank R. Belluche, Racine, Wis. Assigned to The Christensen Machine

Company, Racine, Wis. Application May 24, 1946. 9 claims.

2,454,863. WEB TENSION EQUALIZING DEVICE is designed for maintaining uniform tension across the width of a web being wound or unwound, or being passed through any desired machine for processing, such as being coated by a spreading knife disposed between a pair of rollers. A tension bar is adapted to contact the web across the width of the web and is pivoted on an axis disposed across the web. The bar is rotatable on its axis in response to variation of tension on opposite edges of the web. The portion of the bar midway between the edges of the web coincide with the axis of the bar and the portion of the bar contacting the web is inclined in opposite directions from the axis whereby rotation of the bar about its axis inclines the last-mentioned portion with respect to the normal plane of the web. Any decrease in the difference of tension btween the two sides moves bar to its flat position until tension becomes equal. Invented by Guy J. Crocker, New Brunswick, N. J. Assigned to Industrial Tape Corp., New Brunswick, N. J. Application July 21, 1945. 8 claims.

2,454,903. APPARATUS FOR STEAMING OR VAPORIZING A TRAVELING WEB OF PAPER which has recently been inked is so constructed that no steam is directly impinged upon the paper nor is steam condensate permitted to spot the paper and create areas of weakness. Apparatus is in the form of a steam box which is a hollow box of considerable area, the lower edges of which are flanged to form a gutter for condensate. At its midpoint the box is enlarged to form a hump or shell extending across the box and containing deflectors. The latter are also flanged to form gutters and prevent steam entering the shell from impinging on the web which is exposed to the interior of the box through a narrow slot in its bottom and extending from one side of box to the other side. Slot admits live steam from within the box to the space between box and web. Invented by Karl Weik, Detroit, Mich. Assigned to Fabricon Products, Inc., River Rouge, Mich. Application October 8, 1945. 1 claim.

### Miscellaneous

2,454,391. METHOD OF PRODUCING PRINTED FABRICS. Method of producing printed fabrics makes possible the printing of a monotone fabric of a uniform weave in such manner as to present a jacquard appearance as if the warp threads had been lifted in a desired pattern sequence on a jacquard loom. Here the printed pattern has a lustrous appearance and stands out boldly, because designs are printed on fabric by means of a printing paste which is capable of holding the loose-ended or surface fibers immobilized in a glazed arrangement and which may be hardened after the printing operation to a permanent condition. Fabric is glazed and printing paste intermatts with glazed surface. Cloth is washed and dried to restore non-glazed condition to the unprinted areas. Pattern may be given the jacquard appearance or colors may be added. Invented by Albert S. Jones, Dudley, and Gerald B. Stackpole, Oxford, Mass. Assigned to Cranston Print Works Company, Cranston, R. I. Application September 23, 1944. 1 claim.

2,454,678. MIXTURE OF A POLYVINYL ACETAL WITH A DIISOCYANATE-MODIFIED POLYESTER OR POLYESTER-AMIDE. A product disclosed comprises 15 to 200 parts of polyvinyl formal and 100 parts of a reaction product of a hydrocarbon diisocyanate and a linear polymer selected from the class consisting of carboxylic ester groups and polyester-amides containing recurring intralinear carboxylic ester groups and recurring intralinear carbonamide groups. Ratio of ester groups to carbonamide groups is at least 1 : 1. Various fillers such as carbon black, lithopone, other plastic materials such as wood rosin, and retackifying agents such as stearic, oleic acid, etc. may be incorporated. Compositions may be used in the coating of rollers, blankets, etc. for use in the printing industry and for other purposes. Invented by Walter Fairbairn Smith and Henry George White, Blackley, Manchester, England. Assigned to Imperial Chemical Industries Limited, London, England. Application February 15, 1946, in Great Britain February 28, 1945. 4 claims.

2,455,047. ADJUSTABLE HEATER SUPPORT for a drier or heater makes it possible to use the device with various sizes of printing presses so as to dry ink as printed matter is turned out by a press. The drier is mounted on a standard and base resembling a floor lamp.

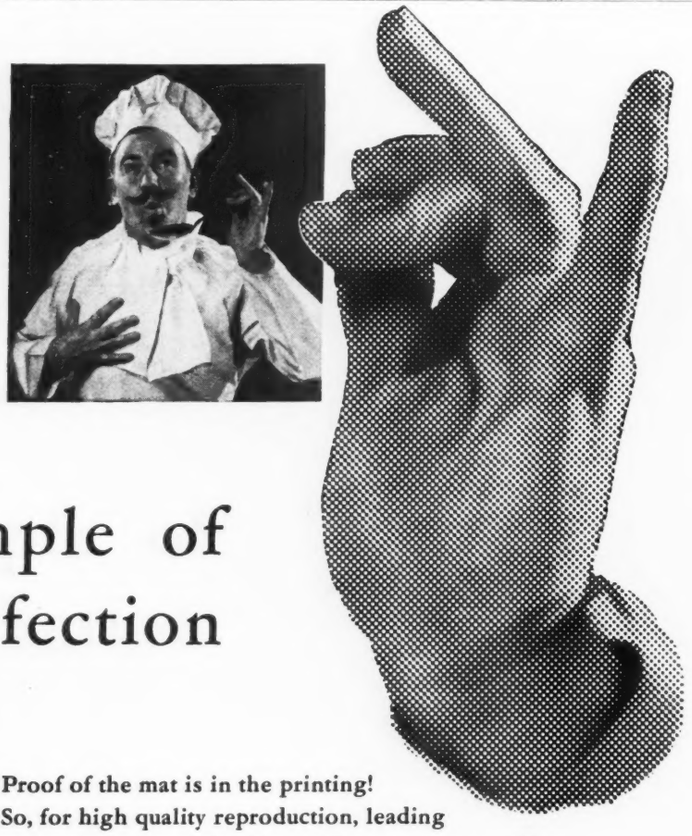
30 PICAS
72 POINTS
MORRISON
.154
6 PICAS
24 POINT
CO.
.065
10 POINTS
30 PICAS
SLUG STRIPPER
.065
Corrections and Angle Lines Made Easy . . .
You can make type corrections or float lines more quickly and easily. The type face of any slug or single type character can be stripped to the thickness of zinc, electro or shell stereo. A great convenience in your composing room.
Illustrated Bulletin and complete details regarding the Morrison Slug Stripper sent promptly upon request.
The Morrison Company
125 WEST MELVINA STREET • MILWAUKEE 12, WISCONSIN

Base has casters so that device may be easily moved, and standard is made up of two telescoped rods so that the drier may be adjusted to many different heights above the prints to be dried. The heater resembles a bank of fluorescent light tubes within a reflector to throw heat downwardly. Such heater is carried at the end of a horizontal arm mounted at the top of the standard, the arm being swivelable with relation to the standard and being extensible. Invented by Charles C. Doyle, Willoughby, Ohio. Unassigned. Application February 15, 1945. 1 claim.

2,456,240. CHASE DIE ASSEMBLY. A chase die includes a chase frame, web-cutting rules supported by furniture within the frame, the furniture having peripheral lands at the tops, and a hold-down plate. Back-up strips between the backs of the rules and hold-down plate have a thickness less than the lands which receive them, and are mitered at intersections of the rules in order that each rule may be supported throughout its length by a back-up strip. Make-ready shims are disposed between one or more of the back-up strips and the hold-down plate in order to determine relative height of the rules. While the die is somewhat more complex than the usual dies, this is compensated for by the ease and accuracy of making-ready. It is intended for making milk-container blanks. Invented by Frederick Auer, Teaneck, N. J. Assigned to Champlain Co., Inc., Bloomfield, N. J. Application June 22, 1946. 24 claims.

2,456,495. COATING MACHINE includes a base and a conditioning mechanism comprising a tunnel through which the web can be suitably conditioned prior to coating. Web moves over guide rollers to the coating station. The latter consists of a carriage having distributor rollers mounted therein. Carriage is mounted on ways and mechanism is provided for moving carriage in either direction. Carriage is locked in coating position and web is coated from a fountain and fountain rollers. From fountain roller, which may have a doctor to control supply, material is transferred to a distributor roller. Subsequent rollers insure application of the coating material in a plurality of layers, one or more of the rollers rotating in a direction counter to the direction of the web movement. Web is then carried to a drying mechanism including a drying drum. Invented by Harry W. Faeber, Larchmont, N. Y. Assigned to Time, Inc., New York, N. Y. Application August 1, 1945. 6 claims.

2,449,172. MECHANISM FOR CLAMPING PILES OF PAPER may be used for clamping any other kind of work wherein a rapid linear movement culminating in a sustained pressure is required. Clamp is for use with a cutting machine comprising a frame having two side members and a bed. The knife is mounted in the side members and reciprocably activated by connecting rods and cranks which are fastened to the end of a motor-driven shaft. The clamp is mounted for vertical reciprocable movement to the rear of the knife. Clamp has side bars carrying headed studs at their bottom ends. Clamp is raised to and held in uppermost inoperative position by means of coil springs fastened to a bar mounted on the frame. Hydraulically actuated mechanism is disclosed for lowering the clamp into engagement with the pile and for applying pressure to the clamp to compact and firmly hold the pile during and after the cutting operation, i.e., during withdrawal of the blade. The mechanism includes a rotatable cam member which is connected to crank shaft, a casing containing fluid such as oil under pressure, and pistons in the casing. One of the pistons is operatively connected to the cam member and is movable thereby. Another piston is movable under the influence of the fluid moved by the cam actuated piston. A third piston in the casing is operatively connected to the second of the pistons and is movable thereby. This last piston is operatively connected to the clamp member for moving it. Invented by Robert L. McBride, New York, N. Y. Unassigned. Application January 16, 1946. 4 claims.

sample of perfection

**Proof of the mat is in the printing! So, for high quality reproduction, leading stereotypers invariably choose Burgess Chrome Mats.**

**The ingredients which make up the perfection of Burgess mats are: quality raw materials, rigid control of process, constant checking and testing in every stage of manufacture. And, as a final test, a sample mat from every run is given a real tough form to reproduce. This is our sample of perfection . . . your insurance of highest quality reproduction.**

BURGESS Chrome MATS

**BURGESS CELLULOSE COMPANY**

*Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats*

**FREEPORT, ILLINOIS**


**Plate Making**

2,454,334. STEREOTYPE MATRICES of the papier mache type used in newspaper work can be dried without danger of damage in this predrier which automatically starts heating when the lid is closed. The predrier casing may be rectangular or square and is shallow in depth, resting on four legs. The casing is divided into two chambers, one superimposed on the other. The top chamber carries heating elements in its bottom and in the lower chamber a fan is mounted at one end so as to blow air upwardly over the heating elements onto the matrix which is positioned near the cover of the casing. The matrix is rested on springs stretched across the top of the casing over which a woven blanket is placed. The cover is made up of springs stretched across a framework, a blanket being placed below the springs. Thus a matrix is

placed on top of the blanket in the top of the casing and when the lid is closed the matrix rests between the blankets. The tension of both sets of springs may be adjusted so that the matrix is never mashed or deformed. Invented by William T. Moir, Sherwood, Oreg. Unassigned. Application June 4, 1947. 5 claims.

2,454,729. METHOD OF MOLDING HALFTONE VALUES IN PRINTING SURFACES. Invention specifically concerns the production of half-tone plates and was originated to eliminate difficulties encountered in the rapid duplication of photoreliefs. A method disclosed of making a photorelief printing element comprises first superimposing upon a surface of a thermoplastic transparent element having an elevated pattern of minute projections thereon, a heat resistant photo-relief. Relief values are then hardened and element is heated. Simultaneously pressure forces are applied and transmitted through the photo-relief to the projections of the thermoplastic element to alter the dimensions of the projections and mold the relief values into the element. Finally, the substance of the photo-relief is removed. Invented by Francisco G. Yanes, New York, N. Y.; Anne F. Goddard executrix of said Yanes, deceased. Unassigned. Application September 25, 1945. 9 claims.

2,455,033. PRINTER'S KNOCKOUT is for forming apertures in stereotype-plates while being molded in a casting box against a pulp matrix, so that cuts or type may be set in the apertures. Knock-out is of block-like form and may consist of cast iron. The top and bottom are preferably rectangular and the sides preferably tapered slightly from bottom to top to facilitate removal of the knock-out from the aperture it forms in the stereotype-plate during casting process. The top of knock-out is provided with teeth adapted to be countersunk in the matrix for holding knock-out in place and to prevent it from shifting upon matrix as molten metal is poured into the casting box. A flexible member is provided of same length and width as top or bottom of knock-out for preventing distortion of matrix when its blank space presents an irregular surface. Invented by Charles W. Wright, Tipton, Kansas. Unassigned. Application March 23, 1946. 2 claims.

2,455,075. PRINTING PLATE AND BASE MOUNT THEREFOR. Mounts for electro-plates for multi-color work are assembled in close relation to each other and each of the plates corresponds in length and width with the dimensions of the upper surface of a guide and clamp. Mating means for each base mount and its associated plate are provided for correctly positioning the plate on the mount. There is a clamp and release for each individual mount and its associated plate, this including a vertically-movable element having a clamping member engageable with the guide and clamp of the plate. Thus plates can be released and removed with ease without affecting positions of the mounts or other plates. Invented by William A. Madigan, Barberton, Ohio. Assigned to The Diamond Match Company New York, N. Y. Application February 12, 1947. 5 claims.

2,455,761. PRINTING PLATE WHIRLER. Photolithographic printing plates are made in the apparatus which comprises a cabinet having a compartment therein. A horizontal rotary plate whirler is mounted on the bottom of the compartment. A motor drives the whirler. An electrical heating element is positioned below the plane of the whirler and within the lateral confines thereof. There are air inlet openings in the bottom of the compartment adjacent the heating element. Fan blades on the lower surface of the whirler circulate the air. Air outlet openings are above the plane of the whirler. Apparatus is suited for use in the field, in duplicating plants, in a truck, trailer, plane, or aboard ship. Equipment included in apparatus comprises a plate whirler, a layout table, a vacuum printing frame, a printing lamp, a plate developing trough, a plate rubbing-up table and necessary electrical connections and controls. Invented by Fred A. Hacker, Cranford, N. J. Assigned, by mesne assignments, to American Type Founders, Inc., Elizabeth, N. J. Application August 3, 1944. 3 claims.

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**Printing Inks and Related Chemicals**

2,454,273. TEXTILE FINISHING AND PRINTING COMPOSITIONS are moldable and castable also. One composition consists of a cellulose ether, a plasticizer such as castor oil fatty acid, linseed oil, etc., and from 0.5 to 7.5 percent of methoxy phenol lactone as a stabilizer. The lactone is gasoline-insoluble and has an empirical formula of $C_{20}H_{22}O_7$ and has two phenolic hydroxyl groups, one alcoholic hydroxyl group, one lactone group, and two methoxy groups and forms a triacetate derivative


TWO ITEMS FOUND IN LEADING COMPOSING ROOMS

Whenever you visit leading composing rooms you find BOOTH'S ZINK CUT CEMENT and BOOTH'S RUBBER ROLLS. Discriminating composing room superintendents know that these two items are unbeatable.

BOOTH'S ZINK CUT CEMENT mounts cuts quickly, holds them fast and is priced in the United States at 75c per tube, $6.00 a dozen tubes and $5.00 a dozen in gross lots.

BOOTH'S RUBBER ROLLS are smooth, easy running, highly responsive with maximum cam gripping qualities . . . highly resistant to glaze. Priced at $1.45 per pair, $7.75 per dozen.

*SEND YOUR ORDER NOW*

E. A. Booth Rubber Co.
2855 SCARBORO ROAD
CLEVELAND HEIGHTS, OHIO

melting at 161° C. and from 0 to 10 percent, based on the weight of the cellulose ether, of a wax. Invented by Richard F. B. Cox, Wilmington, Del. Assigned to Hercules Powder Co., Wilmington, Del. Application July 28, 1945. 8 claims.

2,454,294. PRINTING INK INGREDIENTS may be prepared by subjecting a mixture of a synthetic drying oil, a peroxy compound such as benzoyl peroxide, vinylidene compound, or saturated alcohol ester of a butenedioic acid, to polymerizing conditions, preferably in the presence of an inert organic solvent. After polymerization is complete, the composition may be freed of solvent and catalyst. In a specific example, styrene, xylene, a glycerol mixed ester of linseed oil with beta-(2 furyl) acrylic acid, and benzoyl peroxide are heated under a carbon dioxide blanket at 140 to 142° C. for 5.5 hours in a reactor fitted with a stirrer, thermometer and reflux condenser. The xylene and unreacted styrene are removed by distillation in vacuum over a steam bath. A clear oil having a viscosity of 2 and a color of 5.3 is obtained. With 0.03 percent cobalt naphthenate, the oil dries dust-free in 2.5 hours and tack free in 3.5 hours. This compound may be ground with printing ink pigments or used as let-down agents for standard mill bases. Invented by John C. Sauer, Wilmington, Del. Assigned to E. I. du Pont de Nemours & Co., Wilmington, Del. Application November 7, 1944. 12 claims.

2,454,433. ACID TREATMENT OF PYRENE-QUINONE VAT DYESTUFFS. Method is disclosed for converting a vat dyestuff, characterized by the presence of a dibenzopyrene-quinone nucleus, into very finely divided particles of uniform particle size; in this condition the dyestuff is suitable for printing, pigment dyeing, emulsion printing and similar operations. The method comprises forming a slurry of the dyestuff with 20 to 40 parts of sulfuric acid of such concentration and temperature that at least a part but not more than 10 percent of the total dyestuff is in solution at any one time. Slurry is agitated until conversion of dyestuff to the insoluble sulfate is complete. Then the sulfate is hydrolyzed to the dyestuff. This may be done either before or after isolation by drowning slurry in 4 to 8 times its volume of water. Invented by John F. Cullinan and Lawrence D. Lytle, Plainfield, N. J. Assigned to American Cyanamide Co., New York, N. Y. Application March 13, 1944. 5 claims.

2,454,495. A PROCESS FOR THE MANUFACTURE OF HIGHLY ETHERIFIED POLYMERIC CONDENSATION PRODUCTS comprises condensing an aldehyde with an aminotriazine and an alcohol or a compound containing at least one alcoholic hydroxy group at a temperature below 50° C. in the presence of a proportion of an acid catalyst amounting to ⅓ to about 2 mols per mol of aminotriazine. Predominantly etherification results and the resultant product after elimination of acid is subjected to an after-treatment at 90° C. in the presence of alkyd resin. Polyhydric alcohols, fatty acids, glycerides, etc. can be used. Products are usable in lacquers, adhesives, textile finishing agents, softeners in printing colors, and are usable in the intaglio printing of textiles, wallpaper, etc. Pigment dyestuffs and other pigments can be used. Invented by Gustave Widmer and Theodor Sutter, Basel, Willi Fisch, Binningen, and Ernest Hochuli, Basel, Switzerland. Assigned, by mesne assignments, to Ciba Products Corp., Dover, Del. Application June 12, 1940, in Switzerland July 1, 1939. 16 claims.

2,454,623. TEXTILE CHROME-PRINTING COMPOSITIONS. A process for the manufacture of textile chrome-printing pastes containing hexavalent chromium, chromable dyestuff and gum of vegetable origin is disclosed. It comprises adding to printing composition water-soluble chromates containing at least one metal forming colorless cation selected from the group consisting of di-and trivalent cations, or a water-soluble chromate containing the following: Zinc, or magnesium, or a water-soluble chromate containing as cations zinc and ammonium, or such a chromate obtained by reacting alkali-bichromate with zinc sulfate and ammonia, etc. Invented by Charles Babey, Willi Thommen, and Emil Stocker, Basel, Switzerland. Assigned to J. R. Geigy A.-G., Basel, Switzerland. Application June 30, 1945, In Switzerland July 28, 1944. 12 claims.

2,455,898. LAKES OF BASIC DYESTUFFS. Pigment composition is suitable for intaglio printing. It contains reaction product of a basic polyarylmethane dyestuff with a natural tan-

Edes
$1,600.00
EXCHANGE of SHORT-CUT
Engraving IDEAS
10 VALUABLE PRIZES
1st PRIZE: Emerson Phonoradio — Television FM-AM Console valued at $560 including $50 installation allowance.
2nd PRIZE: Emerson Television Consolette valued at $400 including $50 installation allowance.
3rd PRIZE: Emerson Television Table Model valued at $350 including $50 installation allowance.
4th, 5th, 6th, 7th, 8th, 9th and 10th PRIZES: — GE Electric Blanket valued at $40 each.

ning agent and a water insoluble polyvalent metal salt of at least one soap-forming acid. Invention is not limited to any basic polyarylmethane dyestuff. The most important of this series which can be used are methyl violet, the fuchsines, crystal violet, malachite green, brilliant green, rhodamines, etc. Tanning agents are in general phenolic compounds and belong to the class of the condensed non-hydrolyzable agents such as quebrachos, catechus, etc. Extenders are polyvalent metal salts of soap-forming acids, e.g., oleic, stearic lauric, etc. The metals which form the insoluble soaps are common ones such as barium, aluminum, zinc, calcium, etc. Invented by Walter E. Ness, Middlesex, N. J. Assigned to American Cyanamid Co., New York, N. Y. Application December 10, 1943. 20 claims.

2,456,230. CHROMED MONOAZO COMPOND. Azo-dyestuffs may be produced if ortho-hydroxy-diazo compounds such as 6- or 5-nitro-2-amino-1-phenol-4-sulfonic acid, 4-nitro-2-amino-1-phenol-6-sulfonic acid, etc. are united with 2-aminonaphthalenes capable of coupling in the 1-position which contain at least one etherified hydroxyl group and, if necesssary, treating the dyestuffs thus obtained with agents yielding metal. Dyestuffs may serve for the dyeing and printing of plastic masses, lacquers, textile fibers, etc. The 2-aminonaphthalenes containing at least one etherified hydroxyl group may contain the etherified hydroxyl group for instance in the benzene nucleus which is removed from the amino group and preferably also in the beta-position, particularly in the 6-position. 2-amino-6-methoxy- and 6-ethoxy-naphthalene, as well as gylcerine-mono-(2-amino-6-naphthyl)- ether are examples of azo components. Invented by Willy Widmer, Bottmingen, Switzerland. Assigned to Ciba Limited, a Swiss firm. Application March 9, 1945, in Switzerland December 2, 1943. 4 claims.

**For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D.C.**


2,456,288. PROCESS FOR THE COLORATION OF A MIXED FABRIC containing synthetic linear polyamide fiber and organic cellulose derivative fiber comprises applying to the fabric an aqueous dispersion of 3-nitro-4-amino-2'-chlorobiphenyl, whereby the fabric is colored a uniform, fast greenish-yellow shade. The dyestuffs of the invention can also be employed for printing fabrics containing synthetic linear polyamide fiber alone by applying the dyestuff, dispersed in a printing paste containing a thickening agent or protective colloid, to the fabric. Invented by Jean G. Kern, Orchard Park, N. Y. Assigned to Allied Chemical & Dye Corp., New York, N. Y. Application May 4, 1945. 4 claims.

2,456,471. PROCESS FOR PRINTING CELLULOSE MATERIAL WITH CHROME DYESTUFFS is applicable to the printing of both cotton fabric and also wall paper and woven paper. The process involves printing onto the cellulosic material a printing paste containing, besides the dyestuff, a thickener such as gum tragacanth, a water-soluble carboxylic acid amide such a urea, an alkali metal chromate such as chromium mordant, a substance which splits off a strong acid in the heat, and, as characteristic additions, an oxygen compound of sulfur possessing reducing properties, an aromatic compound of sulfur capable of performing the reversible reaction quinone $\rightleftarrows$ hydroquinone, and omega, omega'-dihydroxydiethyl sulfide. Prints obtained are then dried. Invented by Ernst Tschan, Basel, Switzerland. Assigned to Durand & Huguenin A. G., Basel, Switzerland. Application March 15, 1945, in Switzerland February 17, 1944. 14 claims.

### Printing Presses and Equipment

During the four weeks covered by this report, no patents have been issued for this heading.

## Increases Quarters

It has been announced that The Mezo-Steele Co. of Chicago is now located in larger office quarters in the Daily News Building. The company has tripled its office space since organizing on December 1, 1947. The new offices can be found in Suite 2145, 400 West Madison St., Chicago 6, Ill.


**PRIZE CONTEST**

Starts FEB. 1, 1949
Closes APRIL 1, 1949

*Enter Now*
YOU CAN WIN A PRIZE

***SWAP ONE IDEA FOR 20 OR 30. WHAT KIND OF IDEAS?*** This unique contest is the greatest swap value in years. It's an interchange of engraving short-cuts, "tricks", "by-passes", short steps, skills, methods, or practices that make jobs easier, save time, and increase production for everybody. Any tested short-cut in ANY PHASE of engraving may be submitted — and it may win a prize for you. Here's a chance to swap **one** engraving idea for 2, 10, 20, 30 or more new engraving ideas.

**WHO MAY ENTER?** Anybody who works in an engraving plant.

**HOW DO YOU ENTER?** Just write your short-cut idea on any piece of paper size 8½ x 11. Write your name, address and occupation; also your firm name and address in the upper left corner of sheet, and mail to "Short-Cut" Prize Contest Editor, c/o The Edes Manufacturing Company, Plymouth, Mass. No entry or special blanks are necessary because we want no red tape. It's your IDEA that counts — and nothing else. Send in as many ideas as you wish, as you may win more than one prize. However, each idea must be submitted on a separate sheet of paper.

**WHO SELECTS THE 10 PRIZE WINNERS?** The contestants themselves select by ballot the 10 best short-cut-ideas.

**ALL IDEAS WILL BE PRINTED IN "EDES TREASURE BOOK"**

This promises to be the most helpful Engraving Idea Book ever published. You — everyone who works in an engraving plant — is entitled to a FREE copy on request.

**WATCH YOUR BULLETIN BOARD for COMPLETE PRIZE CONTEST RULES**

— or ask your plant manager — or write today to Prize-Contest Editor, Edes Manufacturing Company, Plymouth, Mass.

**EDES MANUFACTURING CO.**
PLYMOUTH, MASS.

## Great Lakes Conference

(Continued from Page 66)

### Teletypesetter Operation

Robert M. O'Connor, Mechanical Supt. at the Warren (O.) *Tribune*, delivered an interesting talk on Teletypesetter operation. He told of the eight perforators used at the *Tribune* which are located in a sound-deadened room. The same number of operators use only six or seven machines, with the extra machines being used for training purposes or in case of break-downs. These punchers, he claimed, can easily handle all the copy and in addition keep features and time copy punched weeks in advance.

O'Connor related that some ads are set on the Teletypesetter. Also baseball and basketball box scores. Six line-casting machines are equipped with operating units. He advocated a speed of 7 lines a minute for the best operation. Regular unit type Teletypesetter matrices have been installed in the machines. The line-casting machines are equipped with 6 pt. and 8 pt. matrices and alternate molds are used. Corrections are made on a manually operated line-casting machine.

The perforator's initials are punched on the guide lines and the machine number is on each galley. In this way, the proof room immediately notifies the machine room if the matrices on any particular machine are not dropping properly. This, he explained, was also a good way of checking on the source of errors. The equipment at the *Tribune* is adequate for setting all the type required each day and the paper has a minimum of 75 open columns. If 90 or 95 columns are needed, he said, there is no problem in handling it.

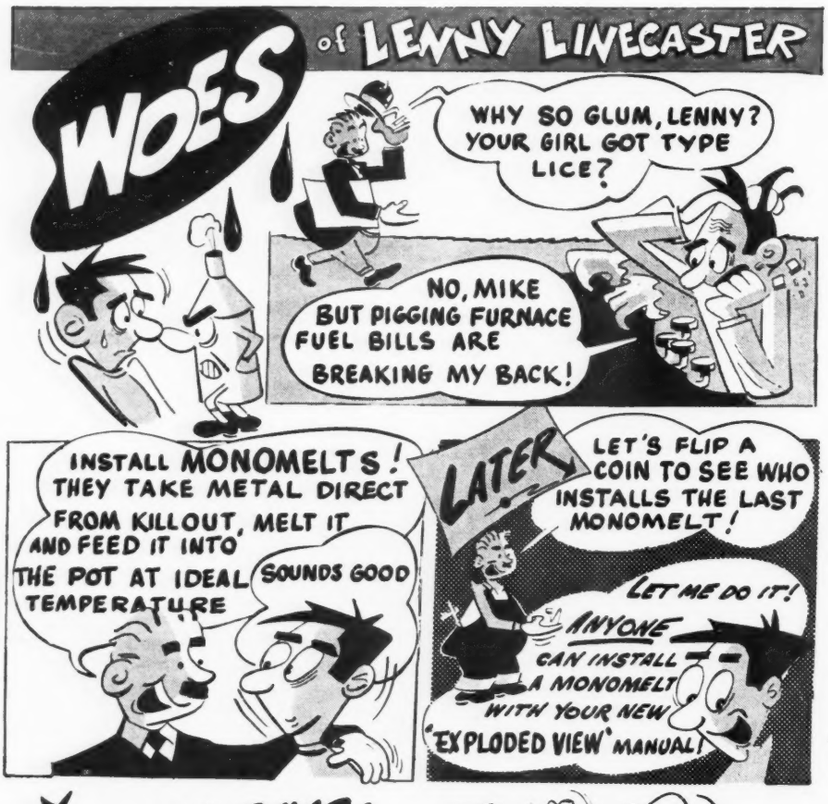
The speaker said he had gathered some information which might be of assistance to anyone contemplating the installation of Teletypesetter equipment. First he advocated proper training for tape punchers before actual operation is started. The rate of pay should be high enough to encourage workers who are serious and steady. Select printers to operate the machines who are interested in the new method of producing type. Maintain the machines properly.

O'Connor told of the production problem at the *Tribune* previous to the installation of Teletypesetter equipment. At that time, setting a big load of copy for the editorial department shut down the ad machine production because the same machines had to be used and consequently floor men were idle. The new line-casting machinery was installed to provide the solution to this and he claimed good results have been obtained. "Teletypesetter equipment", said he, "is a big step forward in the composition of 'hot' type for any composing room."

### Typed Classified Copy

The first question to arise in the question period concerned typewritten copy of want ads. Chairman Coddington asked the members if this innovation had been started on their papers and called for comment from the floor as to whether it had reduced confusion and errors. Deo Padgett remarked that the Cleveland *Plain Dealer* types all want ad copy, but added that difficulty was experienced finding competent girls to take down the information by typewriter over the telephone. Leon Link, also from the *Plain Dealer*, said that the operation would run more smoothly if regular typists receive the copy for typing after it has been taken down over the phone. H. L. Higgins of the Detroit *News*, observed that in some instances, the girls do not always understand spelling the names of articles to be advertised and hence, confusion follows in the composing room.

How do you check want ad errors so as to place responsibility for the errors? S. K. Trunnell, Composing Room Supt., Roanoke (Va.) *Times World*, Inc., related that he receives a weekly report on composing room errors. This is carefully reviewed with the employees of that department. It has reduced errors 75 per cent, he asserted. The audience was next queried by the Chairman on stereotype type high or shell casts. Higgins asserted that shell casts were easier and faster to work with. Shell casts are more convenient to work with because they permit

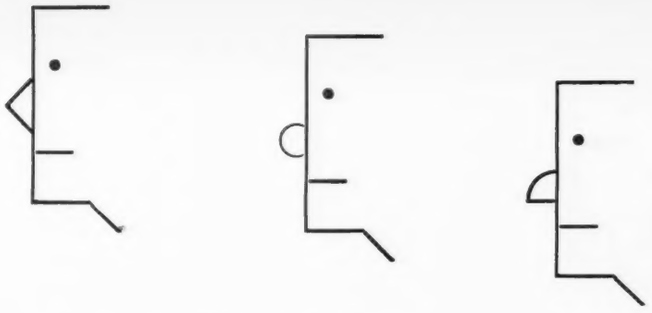


WOES of LENNY LINECASTER
WHY SO GLUM, LENNY? YOUR GIRL GOT TYPE LICE?
NO, MIKE BUT PIGGING FURNACE FUEL BILLS ARE BREAKING MY BACK!
INSTALL MONOMELTS! THEY TAKE METAL DIRECT FROM KILLOUT, MELT IT AND FEED IT INTO THE POT AT IDEAL TEMPERATURE
SOUNDS GOOD
LATER
LET'S FLIP A COIN TO SEE WHO INSTALLS THE LAST MONOMELT!
LET ME DO IT!
ANYONE CAN INSTALL A MONOMELT WITH YOUR NEW 'EXPLODED VIEW' MANUAL!

LENNY SAYS:

Why melt your metal twice to use it once? Install MONOMELT single-melting feeders and say goodbye to fuel bills, metal squirts, faulty slugs and other troubles. Available for linecasting machines, Monotypes, Ludlows and Elrods.

WRITE TODAY
for complete information

THE MONOMELT CO., Inc.
1611 N. E. POLK STREET MINNEAPOLIS 13, MINN



For 145 years it has been as plain as the nose on a man's face that the high quality of Johnson Inks is a distinct help to printers in turning out fine work at lowest cost.

NEW YORK
CHICAGO
BOSTON
ST. LOUIS
CLEVELAND
DETROIT
BALTIMORE
KANSAS CITY
PITTSBURGH
ATLANTA
DALLAS

CHARLES ENEU Johnson AND COMPANY

GOOD INKS SINCE 1804

10th and Lombard Streets, Philadelphia, Pa.

---

# The Bandmaster EDGE-GUMMER

- BANDING
- TIPPING
- WRAPPING

Price $110 delivered anywhere in U.S.A.

The new patented "Bandmaster" is the only practical hand machine that automatically applies edge gumming to any paper or material in widths desired from 2" to 12". Simple in operation, it assures unusual accuracy in banding, tipping, or wrapping. Unique design that permits combining two operations in one can increase production 100%. Adhesive costs are reduced to a minimum.

*Write for complete informative folder.*

**FIHE ENTERPRISES · 1023 Victory Place · Burbank, Calif. ·**

making corrections easier in the composing room, according to Frank E. Marengo, Mechanical Supt. of the Port Huron (Mich.) *Times Herald*.

### Meetings are Beneficial

Chairman Coddington asked the mechanical executives if meetings of department heads are held regularly in their newspapers and whether they considered them beneficial to smooth operation. Link said meetings are held weekly at the Cleveland *Plain Dealer*. To these meetings are invited representatives of management, editorial, advertising, circulation, art and photographic departments as well as heads of all mechanical departments. J. Harold Mintun, Production Mgr., Pittsburgh *Post-Gazette*, said that meetings in his plant used to be attended as are Mr. Link's, but now a department head is only invited to the meetings when something concerning his department is to be discussed. In turn, the department head relays information to supervising executives in his department.

### Reduce Ad Resetting

Another question brought up was whether anything had been done in any plant to reduce the resetting of ads as a result of changes of copy by the advertiser. Comment on this came from Robert R. Reid, Richmond (Ind.) *Palladium-Item*, who told how that newspaper has a layout department of its own. A layout must be OKd before it is sent to the composing room to be set, The unsatisfactory ones are returned for correction.

With respect to the height of stereotype chases, John Steele, Stereotype Supt., Louisville (Ky.) *Courier-Journal* and *Times*, says that in his plant some of the chases are 0.918 in. high, while some are 0.006 in. lower than type high. He stated he couldn't notice any difference in the results obtained in stereotype casting.

Chairman Goggin then threw out the statement that the level of the stereotype chase for molding purposes is intended to serve as the "rest" for molding pressure. With respect to the differences in the makeup of the form, he said that 4 sq. in. of halftone area is equivalent to 16 sq. in. of type area. He stated there are 175 sq. in of area in a steel chase. It appears that it is only necessary to use 25% of the area—that is, inside of the chase lines. Thus it seems stereotypers are using 700% greater resistance surface than is necessary. He wanted to know why stereotypers couldn't drop at least 225% molding pressure? No one seemed to have the answer to this query.

With respect to the level of spaces in type form (non-printing areas), Auburn Taylor, Pressroom Supt., Charleston (W. Va.) *Gazette*, stated it was his observation that stereotypers get more depth in the non-printing areas than the pressmen need to prevent smudging.

### Mat Thickness

At this point, Earl Lacure, Field Engineer, Duplex Division, Goss Printing Press Co., stated it would be highly desirable to standardize the thickness of the stereotype mat. He stated that manufacturers in all cases could make equipment to accommodate the standardized thickness selected. Through the standardized mats it might even be possible to advise recommended pressure for molding machines. "If we don't know", said he, "research could reach the objective." It was his opinion that the thickness of 0.028 in. in a mat could be adopted for the tubular type of plate and another thickness could be adopted for the semi-circular or regular stereotype plate.

There didn't seem to be any agreement among the executives about Mr. Lacure's assertion that stereotype chases could very well be 0.004 in. lower than the type form. George Fuller did remark however, that with type high chases, the stereotyper does not injure the plate edges in the molding operation.

## *Pressroom-Stereotype*

A JOINT session between pressroom and stereotype executives was held Monday afternoon, January 17. Each section of the program was provided with a chairman and a co-chair-


*Time is Money...*

**SAVE BOTH WITH TELETYPESETTER**

Any touch system operator soon learns to punch Teletypesetter tape at high speed . . . with a minimum of errors.

**Teletypesetter offers a proved method of increasing composing machine lineage. Teletypesetter users—newspaper publishers, magazine, book and job plants—say Teletypesetter is the best way to get *more type in less time.***

**Orders are coming in faster than ever before so Teletypesetter production has been stepped up to keep pace with demand. For details on how Teletypesetter can boost your production—save you time and money—write today to:**

**TELETYPESETTER CORPORATION**
**1400 Wrightwood Avenue,**
**Chicago 14, Illinois**

Tape is easily inserted in operating unit, and the composing machine automatically sets type . . . increasing output from 50% to 100%.

TELETYPESETTER
REG. U. S. PAT. OFFICE

**CARRYING WATER...**

*on Only* **ONE** *Shoulder*

The attention and service our field representatives give you is possible because Imperial serves ONLY the Graphic Arts. By specializing in printing metals and calling only on printing metal users, we can eat, drink, and sleep printing metals. Our attention and thinking is never distracted to alien fields for we have no interest in such fields.

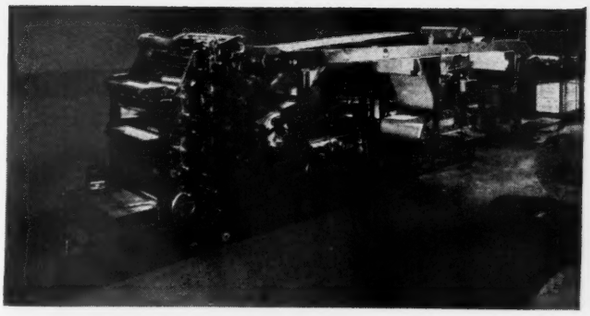
You and others in the Graphic Arts benefit by this specialization for Imperial and Imperial men are at your beck and call all day and every day. That's why you will benefit by thinking of Imperial when you think of Type Metal.

**IMPERIAL TYPE METAL CO.**

*Serving the Graphic Arts Industry Only*

Philadelphia 34 New York 7 Chicago 50

Imperial



**. . . from 5,000 to 10,000 Sheets per Hour!**

**"What kind of work will the Hess & Barker 4 to 6 color rotary printing press do most profitably?"**

Therefore a folder has been printed listing several different jobs run on the Hess & Barker 4 to 6 color rotary press. It will be mailed free upon request.

The very first job printed on the press was a coffee bag in 4 colors. The quality of the work so excelled that of other presses and the production costs reduced so drastically that other jobs were then put on the Hess & Barker press.

Today folders, comic books, coffee, flour, feed bags, drinking cups, fine 4 color process work, labels and last but by no means least a one color job with imprints and scoring that runs into millions of small pads is producing a most handsome profit for an alert printer.

Hess & Barker's 4 to 6 color press feeds from a roll and delivers on a roll or sheets at from 5,000 to 10,000 an hour.

See the Hess & Barker press running and discover for yourself that it is a handsome profit maker.

**HESS & BARKER**

*Printing Press and Equipment Manufacturers*

212-22 S. Darien St., Philadelphia 7, Pa.

Telephone: PEnnypacker 5-4070

man as follows: For the Pressroom Session, Earl Weiskittel, Pressroom Supt., Youngstown (O.) *Vindicator*, was chairman, and he was assisted by Leroy Coates, Pressroom Supt., Grand Rapids (Mich.) *Press* as co-chairman.

George Fuller, Stereotype Supt., Cleveland *Press*, acted as chairman of the stereotype section and Ed McCarthy, Stereotype Supt., Milwaukee (Wis.) *Sentinel*, functioned as co-chairman.

Two stated speakers were scheduled for the program. These were, Ed Rehm, Field Engineer, Wood Newspaper Machinery Corp., and Earl P. Lacure, Field Engineer, Duplex Division, Goss Printing Press Co.

Chairman Fuller, presiding over the stereotype section, called the meeting to order. He exhibited some makeready sheets utilized in the plant of the McCall Corp., Dayton, O., for relieving the solid and middletone areas of stereotype halftone plates which are used in printing a nationally circulated weekly news magazine. The makeready mats consist of two layers of paper, each approximately 0.003 in. thick. The stereotyper cuts away the solid and middletone areas of the halftone plate, much after the fashion of a pressman preparing an overlay for a cylinder press. The mat is then placed back of the stereotype mat in the plate-casting box and after the plate is cast, the solid and middletone sections are cast at a higher printing plane than the highlight areas. This process is to be differentiated from the usual bump-up process utilized by a number of stereotyping plants.

Chairman Fuller then called upon Joseph Goggin, President, Newspaper Publishers Supply Co. in Chicago, who discussed the *Stereotype Mat and Its Factors*. Previous to assemblage of the meeting, Mr. Goggin passed four sheets of typewritten matter so that executives in the audience could read discussion of the factors in advance and be in a position to discuss them under his leadership.

### Mat Behavior

Among the detailed factors discussed by Mr. Goggin were moldability, mat thickness, mat shrinkage, normal mat density, printing surface levels of the type form and stereotype chase, level of spaces in type form, application of pressure factors, pressures at the printing levels, distribution of molding pressure, area of pressure, etc.

This reporter gathered the impression that many executives in attendance at the conference were not prepared to discuss deeply technical subjects related to stereotyping. We have no doubt, however, that at future conferences, a number of these same executives, after being given time to study the various subjects, will come up with some answer which will be mutually informative to Mr. Goggin, the mat manufacturers and themselves. From the context of the discussion preprinted and distributed before the conference session, it is evident that Mr. Goggin has given all factors related to stereotype mat manipulation a great deal of concentrated thought.

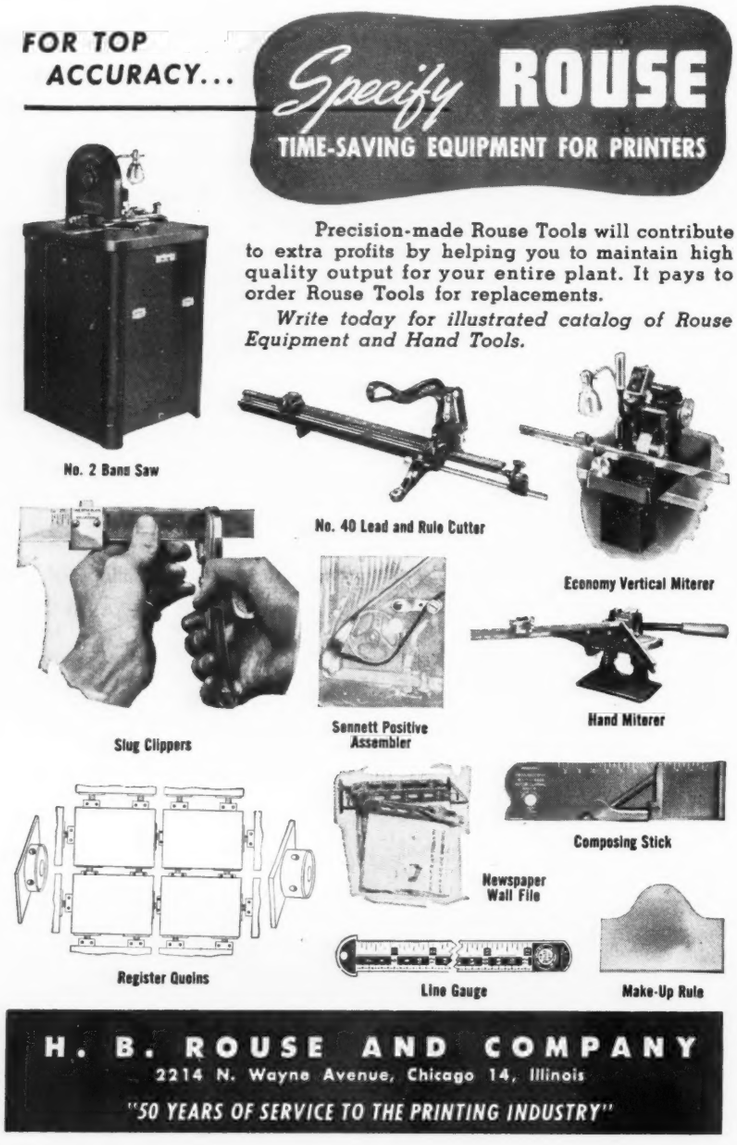
With respect to mat moldability, Mr. Goggin stated a percentage of the mat impression is obtained through stretching the paper with the molding pressure passing below the printing surfaces of the type form, and a percentage of the mat impression is obtained through the imprint capacity of the mat paper by the molding pressure retained at the printing level in molding. Several factors are involved as follows: (1) Nature of the mat paper construction. (2) Moisture percentage. (3) Temperature of the paper, and (4) Mat thickness.

Blanchard Wilson, Stereotype Supt., Cleveland *News*, asked Mr. Goggin what maximum shrinkage could be obtained on a low shrinkage mat. Rollo Lewis, Sales Mgr., Beveridge Paper Co., stated that so far as his company is concerned the maximum shrinkage that could be obtained ranges from ¾ in. to ⅞ in. From that point on however, he stated it would be necessary to utilize a high shrinkage mat.

### Halftone Reproduction

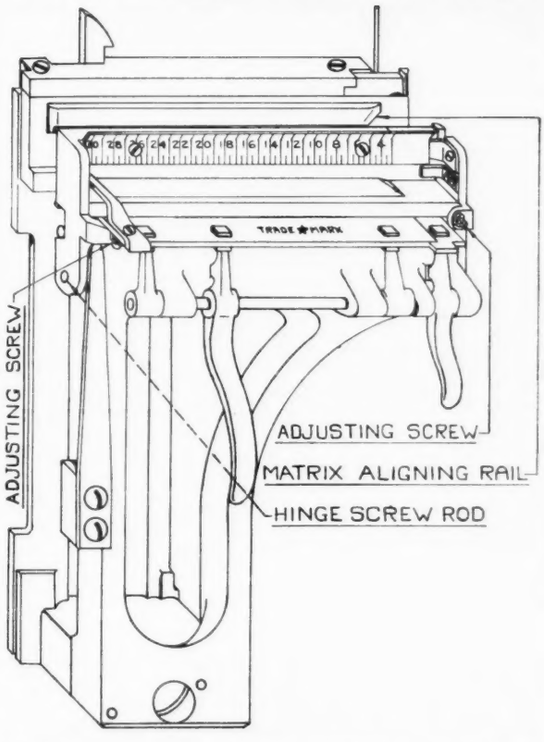
Mr. Wilson also wanted to know if a low shrinkage mat would produce as good halftone illustrations as a high shrinkage mat. Chairman Fuller remarked the results obtained with direct pressure baked mats bears out the contention that the low shrinkage mat does a better job of reproduction.

Mr. Goggin explained that mat density is measured by the volume of air existing between the walls of the mat paper. Air



FOR TOP ACCURACY...
Specify ROUSE
TIME-SAVING EQUIPMENT FOR PRINTERS
Precision-made Rouse Tools will contribute to extra profits by helping you to maintain high quality output for your entire plant. It pays to order Rouse Tools for replacements.
Write today for illustrated catalog of Rouse Equipment and Hand Tools.
No. 2 Band Saw
No. 40 Lead and Rule Cutter
Economy Vertical Miterer
Slug Clippers
Sennett Positive Assembler
Hand Miterer
Composing Stick
Newspaper Wall File
Register Quoins
Line Gauge
Make-Up Rule
H. B. ROUSE AND COMPANY
2214 N. Wayne Avenue, Chicago 14, Illinois
"50 YEARS OF SERVICE TO THE PRINTING INDUSTRY"

## ANOTHER EXAMPLE OF STAR PROGRESS

### The Improved ASSEMBLING ELEVATOR for Linotype and Intertype




### with the well-known STAR one piece

**ADJUSTABLE GATE—**
Makes adjustment of distance between gate and back rail a simple, accurate operation, assuring good assembling of matrices.

**MATRIX ALIGNING RAIL—**
Mounted on back plate, keeps matrices in line, upright, an aid against transpositions and spilled lines.

**ASSEMBLING ELEVATOR GATE HINGE ROD—**
Threaded on one end to avoid wear in holes of gate.

*WRITE FOR MORE INFORMATION*

PRECISION
TRADE ★ MARK

**LINOTYPE PARTS COMPANY**

*Factory and Main Office:*
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## AMAZING DISCOVERY!

If you have **NOT** been using VULCAN Newspaper Press Blankets, you've been missing something important. Discover it!

You will find that today's VULCAN Press Blankets have exactly the qualities that meet your needs best, whether your presses are old or new. They have a precise uniformity of thickness, the right degree of compressibility, greater tensile strength in the surface coating, which means abrasion resistance and long life.

There's a right combination of VULCAN cylinder packing for every need and every condition. Order VULCANS today.

**Vulcan**
**PROOFING COMPANY**
**FIRST AVENUE & 58th STREET • BROOKLYN 20, NEW YORK**

Pacific Coast Representative: THE CALIFORNIA INK COMPANY, INC.
Canadian Representative: SEARS LIMITED, TORONTO

is among the best known insulators of heat and is a factor of time required to equalize the temperatures on both sides of the mat. He stated that through bad density, we get air holes, and a grainy surface on the face of the cast. Mat density, relatively, is a new factor which sould account for mat casting troubles.

## *Pressroom Section*

AT this juncture, Earl Weiskittel, Chairman, and LeRoy Coates, Co-chairman, assumed charge of the session. The first question was related to the maximum variation in the printing level of the stereotype plate so that good printing would not be interfered with. Joseph McMullen, Pressroom Supt., Milwaukee *Journal*, stated the variation of plates in relation to good printing is largely dependent upon whether the presses run at slow or high speed with soft or hard packing. He stated that plates at the Milwaukee *Journal* are held within 0.001 in. plus or minus.

Ed Rehm, Field Engineer, Wood Newspaper Machinery Corp., said that depending upon the makeup of the page form, one can get 0.001 plus or minus on all four corners of the plate. He feels that the plant machinist can set the plate shaving knife to hold the plate within 0.001 in. He feels that a tolerance of 0.001 in. plus or minus is as good a trim as anyone is going to get on newspaper plates.

L. O. Wakefield, Mechanical Supt., Akron (O.) *Beacon-Journal*, agreed with Mr. Rehm that perhaps 0.001 in. would be as close as anyone could trim a plate, but he doesn't feel the all-over trim has anything to do with the printing areas in the plate. Taking into consideration the printing areas of the plate, he believes that 0.0025 in. is as close as anyone can trim a plate.

### Blanket Gauges

The next question was: *How much can press blankets vary in thickness without interfering with good printing?* Earl Weiskittel, Pressroom Supt., Youngstown (O.) *Vindicator*, asked for an exact tolerance of 0.002 in. plus or minus when the blankets are received from the manufacturer. Leon A. Link reminded the executives of the resolution which was passed at the 1948 Grand Rapids Conference in which manufacturers were requested to mark the gauge thickness of their blankets on the blanket itself before shipping to the customer. In response to a request from Chairman Weiskittel, Parker Hart of Tingue Brown & Co., says his company stamps the gauge on press blankets when requested to do so by the customer. Mr. Link replied: "All I know about press blanket tolerances is the squawks I hear from time to time. If we knew the standard adopted by the manufacturer then printing plant executives could work from that point on in obtaining best printing results." Mr. Hart said very few of the newspapers ordering blankets specified that the gauge be stamped upon them—but in all cases where requested, the gauge thickness is stamped on the blanket.

Chairman Weiskittel stated it was his procedure to ask the manufacturer for a swatch of the blanket with the measurement indicated on the swatch, then he would measure the swatch in his own gauge at the *Vindicator* plant. Quite often there would be a difference of 0.002 in., but at least he would know what thickness to order after checking up on the manufacturer's thickness mark.

Upon a show of hands, 30 executives wanted the gauge thickness stamped upon the blanket, while two indicated it didn't make any difference to them whether or not the manufacturer stamped the gauge thickness on his product. Chairman Weiskittel was instructed to inform the blanket manufacturers of the action taken at this session of the Great Lakes Conference.

### Plate Variation

With respect to the question, "*Does variation in water temperature affect the surface and shape of a stereotype press plate?* Ed Rehm, Field Engineer, Wood Newspaper Machinery Corp. said tests definitely show that water temperature does affect the shape of the plate, (warm or cold). The shape of the plate can be changed as much as 3/16 in. He discussed in detail experiments which had been made by injecting cold water at the top and

"No more CORRODED or dirty zinc

We use IMPERIAL ZINC WITH REDIFACE"

"It's surprising how much less time we spend on scrubbing since we started using Imperial Zinc with Rediface. This plastic film protects the surface from dirt and corrosive action until we are ready to apply the enamel."

Rediface joins Redibak, the Imperial acid-resist, in saving time for engravers everywhere. That tight-fitting protective film wards off troublesome dirt, yet is easily removed when desired. Ask for a case of Imperial Zinc with Rediface—find out how pleasant it is to work with clean zinc.

IMPERIAL TYPE METAL CO.

*Serving the Graphic Arts Industry Only*

Philadelphia 34 New York 7 Chicago 50

Imperial ZINC

# BEVERIDGE *Says:*

**"Our Control is Your Control"**

By maintaining perfect quality control at all times of all materials and workmanship entering into BEVERIDGE DRY MATS, we are able to give you a quality mat that you can control in your work. This is why every case of BEVERIDGE MATS is like every other case . . . and why BEVERIDGE DRY MAT users are always satisfied. Send us your order today.

*New Products Division*
**The Beveridge Paper Company**
Indianapolis 4, Indiana

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. . . if you are, our 30 years experience on new buildings, modernizations and surveys for newspaper and printing plants can be a real help to you. Of course, there's no obligation involved in discussion. Write today.

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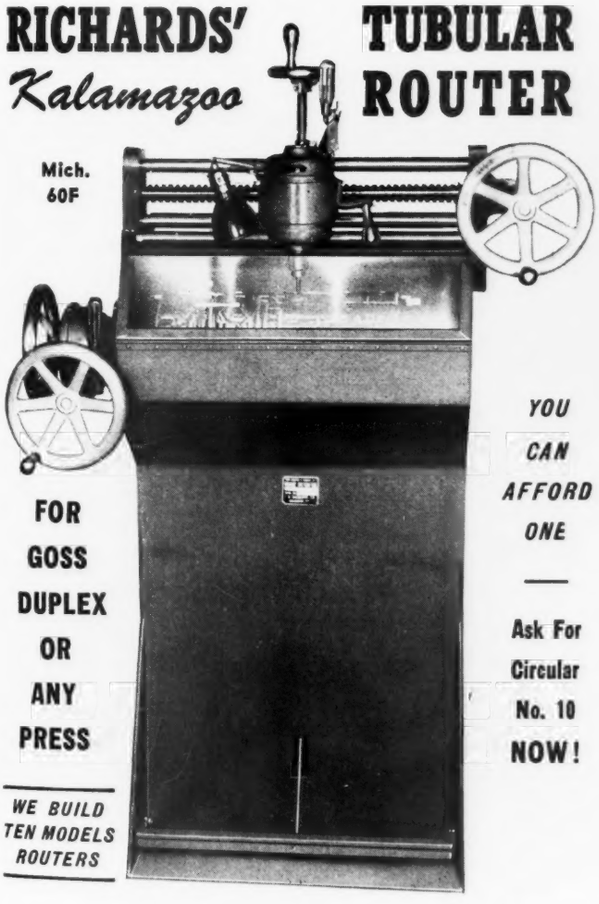

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bottom of the mold, in the center of the mold and at the bottom only, which produced plate variations ranging from 1/16 in. to 3/16 in. Cold water will change the plate shape as much as 1/16 in. at 80 to 85 deg. temperature. He thinks it's more important to have proper cooling of the plate in the Autoshaver rather than in the casting box because of inability to secure exact regulation of water temperature in water circulating devices of various kinds. It is necessary for the stereotyper to use his best judgement by adjusting his equipment so that in the winter the water temperature will be 55 deg. and in the summer the water be maintained at an average of 75 deg. temperature. George Fuller remarked that it is easier to get better fit of plates on the press cylinder in the summer than in the winter.

### Maximum Plate Life

Respecting the maximum number of impressions that can be obtained from a stereotype plate, Chairman Weiskittel stated that in his plant, plates are changed after 40,000 impressions, but during the Christmas rush he had obtained plate runs up to 65,000 impressions. Mr. Rehm stated he saw a test in a New York plant which showed the printing life of a plate is dependent upon the method of clamping the plate on the cylinder. With the Goss Tension Plate Lockup, he saw a run of 150,000 impressions and the last paper looked just as good as at the beginning of the run.

Upon request by Chairman Weiskittel, Clarence Seaman, Vice President, Imperial Type Metal Co., stated he doesn't think any amount of tin above 5½% in the metal alloy, would have any bearing on the number of impressions that could be obtained from a stereotype plate.

### Favor Direct Pressure

Somebody wanted to know which is the hardest on type and cuts—direct pressure or mat roller? No one seemed to want to answer the question, but Edgar McCarthy, Stereotype Supt., Milwaukee *News-Sentinel*, in response to a query from L. J. Griner, Production Mgr., Detroit *News*, stated he uses both roller and direct pressure molding. He gets the least stretch from press blankets which are used in molding on a direct pressure machine and gets the most stretch from the molding combination consisting of 1/8 in. cork and a fibre board on the roller and therefore uses the press blanket to prevent stretch in the mat when molding from direct pressure.

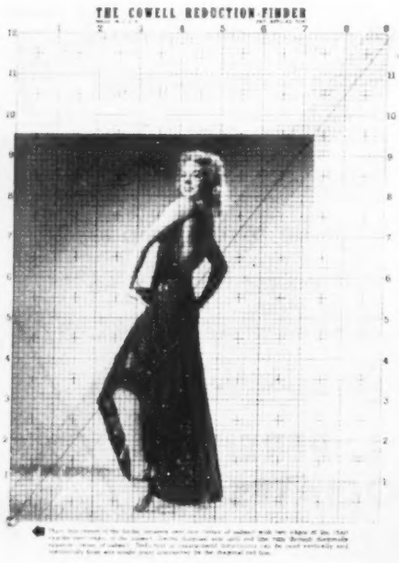
### Glass Bead Blankets

The question of the utility of glass beaded press blankets came up for discussion. L. O. Wakefield, Mechanical Supt., Akron (O.) *Beacon-Journal*, states that he gets less offset on first impression printing. In a test run on two presses standing side by side, the one press is dressed on both first and second impression cylinders with the glass beaded blankets. Joseph McMullen, Pressroom Supt., Milwaukee *Journal*, stated glass beaded blankets do print better on both first and second impressions and he likes them. He stated however, that when passing a hand over a glass beaded blanket, one gets more ink and/or dirt from the glass beaded drawsheet but in the actual printing operation you get less offset on first impressing printing. He wanted to know why. No one answered the question.

### First Imp. Offset Test

At the invitation of Chairman Weiskittel, E. J. Kane, Spherekote Div. of 3MCo., reported upon a test run to determine the amount of offset occuring on the first impression side of the web during the second impression on the opposite side of the web. In conducting the test at the research laboratory of Sun Chemical Corp., New York, N. Y., a laboratory model press was used. The press was web-fed and was calibrated to the same speeds as regular newspaper production presses.

The impression cylinder packing on the press was spli—that is, one-half the cylinder was covered with Spherekote drawsheet and the other half with a conventional drawsheet. A pointed oval-shaped hole was cut into the top of printing surface of the newsprint roll. The cut-out portion was approx. 4¾ in.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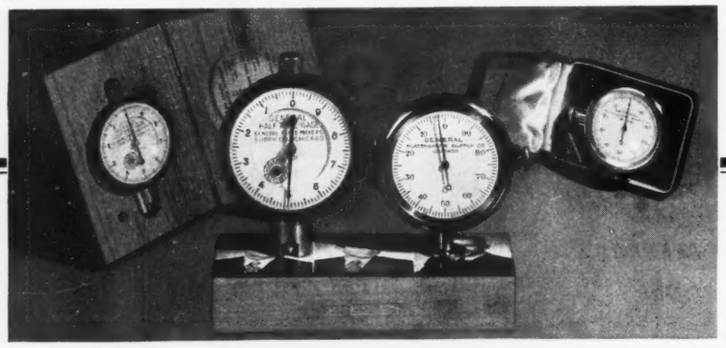

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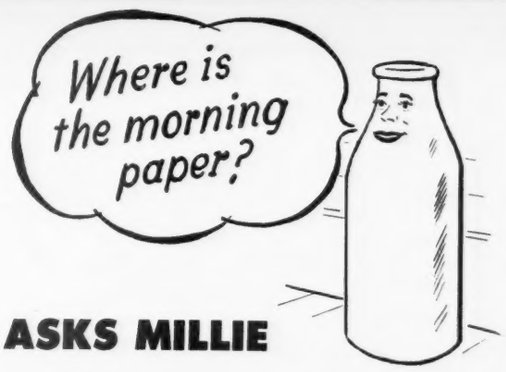


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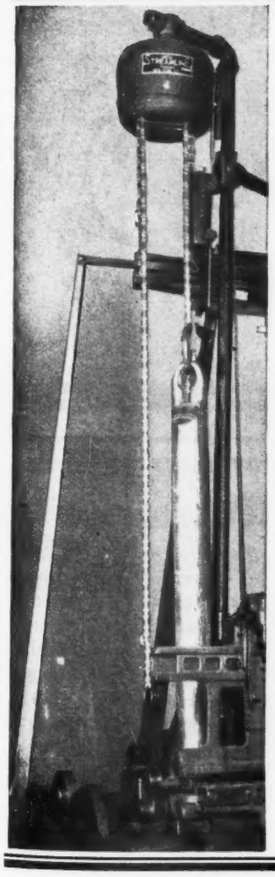

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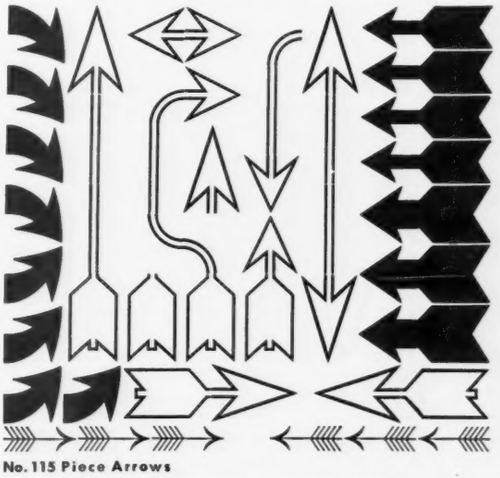

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length and 2⅛ in. wide in the center of the oval. No ink was used and no impression was carried on the first impression cylinder. All variables were checked. The paper web was 8¾ in. wide.

Inking and impression were applied only on the second impression cylinder. During the run the inked plate printed through the hole in the paper on one revolution of the press. On subsequent revolutions or impressions it printed on the uncut surface of the paper causing the ink which had been laid directly on the second impression cylinder to transfer or offset back to the unprinted side of the web.

"Depending upon the varing diameter of the paper roll," said Mr. Kane, "the ratio was 1 print through the hole to 4 prints on the uncut surface, yielding 4 transfers or offset prints to examine. Examination of the comparative prints (offsets) showed that the glass-bead drawsheet permitted about $1/10$ the amount of ink to transfer or offset back on to the paper stock as compared to the conventional drawsheet." Continuing, the speaker explained that the small amount of ink that did transfer back was not in a solid like form as compared to the conventional drawsheet. The ink transferred back from the glass drawsheet was in the pattern of minute dots or minute circles. Another conclusion arrived at is that the tops of the glass beads remain clean and the ink that transfers must come from between the beads. He related that progressive studies indicate that by the time the fourth transfer or offset print is made, the amount of ink transferred by the glass beaded drawsheet is almost unnoticeable.

## *Mailroom*

THE Mailroom Session held on Tuesday morning brought an interested group of approx. 30 members to hear the three speakers and discuss mailing department problems. Chairman at this discussion was J. F. Walker, Mailroom Supt., Cincinnati *Enquirer*, assisted by Roy E. Seitz, Mailroom Supt., the Cleveland *Press*.

The session was opened with remarks by Leon A. Link, Program Chairman of the Great Lakes Mechanical Confer-

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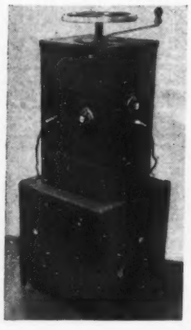

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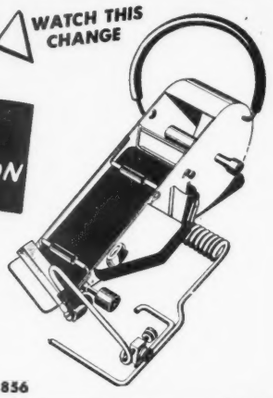

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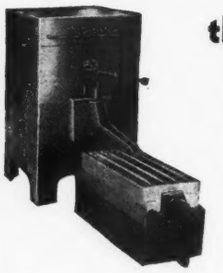

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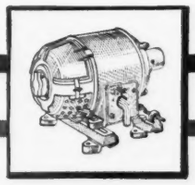

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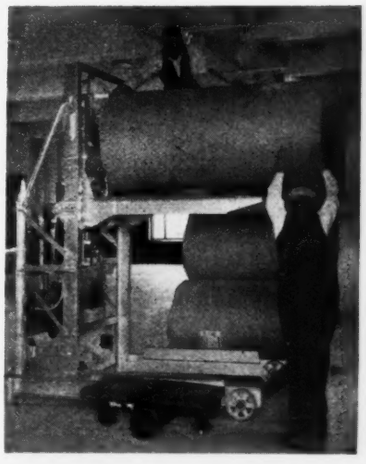

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Mechanical executives are invited by the editor to submit descriptions of production helps devised in their plants.

ence. He told of the important role the mailing room plays in the production picture of a newspaper. There is no use in finding faster and better means of producing a newspaper, he continued, unless the product can reach the consumer by the same swift and efficient methods. The mailroom has a problem ahead of keeping pace with the new equipment which is used to produce the newspaper. He called upon the mailroom superintendents to meet this problem by mechanical or manual means. "Find out how the mail department can be kept in tune with the rest of the industry." Let machinery replace the handling method too commonly used, in an effort to make the newspaper industry a bigger and better business. In conclusion, he said mailers have a more difficult job than the rest of the craft in conquering these problems, but voiced assurance that they would be successful in their quest.

### Faster Paper Delivery

Opening speaker on the program was Charles Staab, Circulation Manager of the Cincinnati *Enquirer*, who spoke on *Mailroom Operation and Our Future Needs*. He described the mailroom at the *Enquirer* and told of plans for a streamlined department in the future. Staab reiterated Link's remarks by stressing the importance of the mailroom in future circulation needs. Daily circulation has increased 105 thousand since 1934 at the *Enquirer*, said Staab, and 90 thousand on the Sunday editions. Metropolitan newspapers today must have their papers on the streets faster which means that the mailrooms must be geared to meet this stepped-up increase in production methods. The distribution method on the *Enquirer* at present is satisfactory, but with the advent of new equipment and faster methods, this will soon become outmoded and more satisfactory methods must be found. In relating plans for the new mailroom, Staab mentioned the installation of automatic tying machines, movable conveyors, automatic mailing machines and better ventilation as part of the program to be carried through.

The newspaper, concluded the speaker, exist on service to the people due to it being such a rapidly consumed product. For this reason alone the people must be reached with as much speed as possible.

### Signode Automatic Wire Tying

J. W. Bowers, sales representative of Signode Steel Strapping Co., spoke on the Signode Automatic Wire Tying Machine. During the past 16 months, 100 wire tying machines have been produced and installed in newspaper mailing rooms throughout the country. This will swell the total to 250 machines in newspaper plants by the end of this year. The machine is equipped with casters enabling it to be moved from one position to another. The maximum bundle it can handle is 26 in. high and 26 in. wide. A special attachment enables it to tie low bundles as small as one newspaper.

### Gauge of Wire

Representing the Gerrard Steel Strapping Co., Carl Larsen told of a machine being developed by Gerrard. This machine, he claimed, will make 26 to 30 ties per min. and will splice the wire automatically. It will use 18 ga. wire. Co-Chairman Seitz argued the 18 ga. wire was too light to hold a bundle of approx. 50 lbs. when it drops 30 to 40 ft. to the loading platform. Magazine supplement sections are tied satisfactorily with 18 ga. wire, according to Oscar Gneuhs, Mailroom Foreman, Cleveland *News*.

### Milwaukee *Journal* Movie

A highlight on the program was the showing of a sound movie, filmed in the mailing room of the Milwaukee *Journal*. Each operation carried on in that de-

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partment was clearly shown and carefully explained. Of much interest to the audience was the automatic bundle tying machine (*Printing Equipment Engineer*, July 47) and the telescopic conveyors.

The question period was shortened at this session in order to enable those present to attend the main conference business session which was scheduled for 11:30 a.m. Seitz responded to the question asked the members; *What part of your operation presents the greatest opportunity for improvement?* Getting the papers off the conveyors on to the tables or wire tying machines, he answered. In addition, he said, that perhaps a finger device could be developed to straighten up or jog the newspapers as they are received from the press. There have been no new developments in single wrapping machines, he continued, and it has reached the point where circulation is retarded to a great degree.

William McDaniel, Charleston (W. Va.) *Gazette*, said the conveyor length has been shortened in order to locate the mailroom over the pressroom. This suggestion was offered when the mailers were asked if they were to redesign their present mailrooms, what changes would they make in the present layout. The Co-Chairman remarked that much depends on where the mailroom is located. The general trend today is to have this department on the second floor directly over the presses. In most instances, he pointed out, inadequate room is given the mailroom in layouts of a new plant. Chairman Walker told of the mailroom at the Cincinnati *Times-Star* which is under the pressroom. The pressroom at that newspaper is on the third floor.

Mailroom Supt. Edward M. Happer, Cleveland *Plain Dealer*, criticized the lack of attendance at the mailing sessions held to date. He called for a larger representation from other cities to deal with these important problems and also asked to have more equipment representatives present to further development of new and more streamlined equipment.

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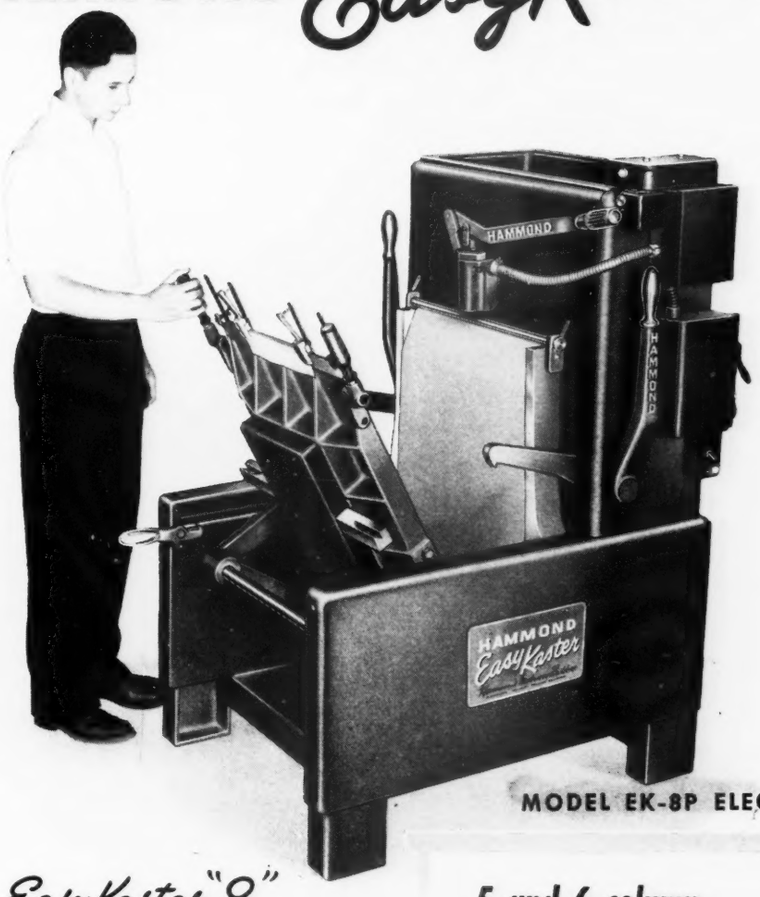


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- Easy Operation—bed *rolls* into place.
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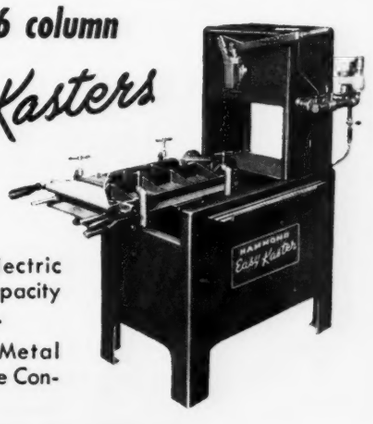


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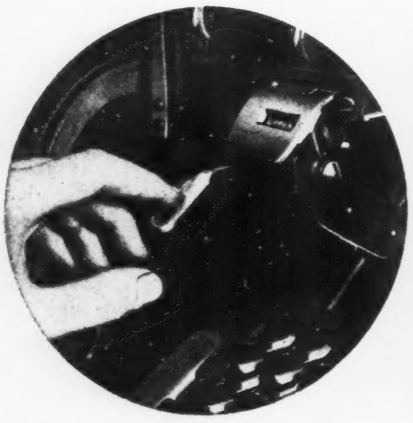

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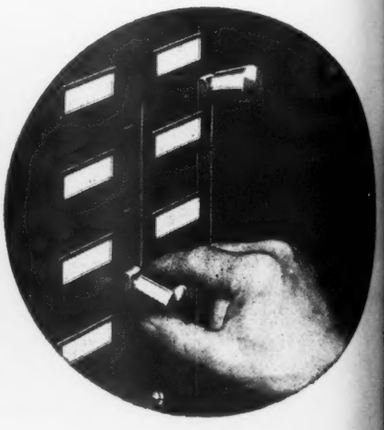

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These important developments—and many others—are the result of Intertype's continuous far-sighted research program. Our engineers are constantly searching for new ways to eliminate manual motions, ease the operator's task, increase production, simplify maintenance.

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